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3
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(CURA-524AF)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:

Muralidhara Padigaru, et al.

SERIAL NO.:

10/023,601 Conf. No. 2888 EXAMINER: Not Yet Assigned

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December 18, 2001 ART UNIT: 1646

FOR:

NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME

BOX SEQUENCE

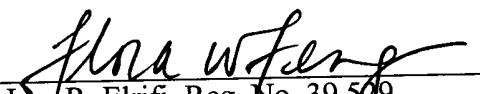
Assistant Commissioner for Patents
Washington, D.C. 20231

**STATEMENT IN SUPPORT OF COMPUTER READABLE
FORM SUBMISSION UNDER 37 C.F.R. § 1.821(f)**

I hereby state that the content of the paper and computer readable forms of the Sequence Listing, submitted in the above-identified application in accordance with 37 C.F.R. § 1.821(c) and 1.821(e), respectively, are the same. The sequence listing is supported by the specification and references incorporated therein. Therefore, no new matter is added at this time.

Respectfully submitted,

Dated: July 26, 2002


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Flora W. Feng, Reg. No. P-51,673
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#3

SEQUENCE LISTING

<110> Padigaru, Muralidhara
Kekuda, Ramesh
Colman, Steven
Spytek, Kimberly
Ballinger, Robert
Vernet, Corine
Li, Li
Shenoy, Suresh
Casman, Stacie
Guzev, Vladimir

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Phe Phe Ile Tyr Val His Pro Ser Ala Thr Phe Ser Leu Asp Leu Asn
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Thr Thr Phe Tyr Val Ile Asn Val Thr Gly Asn Leu Gly Met Ile Val
 35 40 45

Leu Ile Arg Ile Asp Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

Ser His Leu Ser Phe Val Asp Thr Cys Phe Ser Ser Val Val Ser Pro
 65 70 75 80

Lys Met Leu Thr Asp Phe Phe Val Lys Arg Lys Ala Ile Ser Phe Leu
 85 90 95

Gly Cys Ala Leu Gln Gln Trp Phe Phe Gly Phe Phe Val Ala Ala Asp
 100 105 110

Cys Phe Leu Leu Glu Ser Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys
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Asn Pro Leu Leu Tyr Ser Val Ala Met Ser Gln Arg Leu Cys Ile Gln
 130 135 140

Leu Val Val Gly Pro Tyr Val Ile Gly Leu Met Asn Thr Met Thr His
 145 150 155 160

Thr Thr Asn Ala Phe Cys Leu Pro Phe Cys Gly Pro Asn Val Ile Asn
 165 170 175

Pro Phe Phe Cys Asp Met Ser Pro Leu Leu Ser Leu Val Cys Ala Asp
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Val Phe Ser Gly Leu Thr Ile Leu Ile Ser Tyr Ile Tyr Ile Leu Met
 210 215 220

Ala Ile Leu Arg Ile Arg Ser Ala Asp Gly Arg Cys Lys Thr Phe Ser
 225 230 235 240

Thr Cys Ser Ser His Leu Thr Ala Val Phe Ile Ser Tyr Gly Thr Leu
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Phe Phe Ile Tyr Val His Pro Ser Ala Thr Phe Ser Leu Asp Leu Asn
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Lys Val Val Ser Val Phe Tyr Thr Ala Val Ile Pro Met Leu Asn Pro
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Ser Gln Leu Ser Leu Met Asp Leu Met Leu Val Cys Asn Ile Val Pro
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Lys Met Ala Ala Asn Phe Leu Ser Gly Arg Lys Ser Ile Ser Phe Val
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Gly Cys Gly Ile Gln Ile Gly Phe Phe Val Ser Leu Val Gly Ser Glu
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Ile Thr Gly Ser Ser Trp Ala Phe Gly Ile Ile Asp Gly Val Ile Gln
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 165 170 175

His Phe Phe Cys Glu Val Gln Ala Leu Leu Lys Leu Ala Cys Ala Asp
 180 185 190

Thr Ser Leu Phe Asp Thr Leu Leu Phe Ala Cys Cys Val Phe Met Leu
 195 200 205

Leu Leu Pro Phe Ser Ile Ile Met Ala Ser Tyr Ala Cys Ile Ser Arg
 210 215 220

Gly Cys Ala Pro Asn Thr Leu Cys Ser Gly Leu Glu Lys Ser Pro Gly
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Tyr Met Leu Thr Leu Thr Gly Asn Val Ala Ile Ile Ser Leu Thr Cys
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Ala Asn His Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Ser Asn Trp
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Ser Ile Trp Asp Ile Phe Phe Thr Thr Ser Val Ile Pro Lys Leu Leu
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Ala Cys Leu Leu Gln Asp Lys Lys Thr Ile Ser Leu Leu Gly Ala Ser
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Pro Lys Leu Ile Ser Leu Val Phe Trp Gly Thr Val Glu Phe Ile Leu
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Val Ser Arg Leu Pro Phe Cys Tyr Lys Glu Ile Ser His Phe Phe Cys		
	165	170
Asp Ile Thr Pro Leu Leu His Val Ser Cys Ile Asp Thr His Phe Ile		
	180	185
Glu Met Ile Asn Phe Leu Leu Ser Ser Leu Ile Leu Leu Thr Ser Leu		
	195	200
Val Leu Thr Thr Val Ser Tyr Ile Tyr Ile Ile Ser Thr Ile Leu His		
	210	215
Ile Pro Ser Ala Gln Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser		
225	230	235
His Ile Thr Val Ile Ser Ile Ala Tyr Ile Ser Asn Ile Phe Arg Tyr		
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Val Arg Pro Ser Gln Ser His Ser Met Gly Phe Asp Lys Val Thr Ala		
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Val Pro Thr Met Val Thr Pro Leu Leu Asn Pro Phe Thr Tyr Ser Leu		
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ttatggtgtg agaaccaagg agatcaagca ggaatccaa aacctgctga agaggttga 960
agaataaaaa ggatt 975
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<210> 12

<211> 313

<212> PRT

<213> Homo sapiens

<400> 12

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Met Ala Ser Pro Asn Asn Asp Ser Thr Ala Pro Val Ser Glu Phe Leu
  1              5              10              15

Leu Ile Cys Phe Pro Asn Phe Gln Ser Trp Gln His Trp Leu Ser Leu
      20              25              30

Pro Leu Ser Leu Leu Phe Leu Leu Ala Met Gly Ala Asn Thr Thr Leu
      35              40              45

Leu Ile Thr Ile Gln Leu Glu Ala Ser Leu His Gln Pro Leu Tyr Tyr
      50              55              60

Leu Leu Ser Leu Leu Ser Leu Leu Asp Ile Val Leu Cys Leu Thr Val
      65              70              75              80

Ile Pro Lys Val Leu Ala Ile Phe Trp Phe Asp Leu Arg Ser Ile Ser
      85              90              95

Phe Pro Ala Cys Phe Leu Gln Met Phe Ile Met Asn Ser Phe Leu Thr
      100              105              110
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Met Glu Ser Cys Thr Phe Met Val Met Ala Tyr Asp Arg Tyr Val Ala
 115 120 125

Ile Cys His Pro Leu Arg Tyr Pro Ser Ile Ile Thr Asp Gln Phe Val
 130 135 140

Ala Arg Ala Val Val Phe Val Ile Ala Arg Asn Ala Phe Val Ser Leu
 145 150 155 160

Pro Val Pro Met Leu Ser Ala Arg Leu Arg Tyr Cys Ala Gly Asn Ile
 165 170 175

Ile Lys Asn Cys Ile Cys Ser Asn Leu Ser Val Ser Lys Leu Ser Cys
 180 185 190

Asp Asp Ile Thr Phe Asn Gln Leu Tyr Gln Phe Val Ala Gly Trp Thr
 195 200 205

Leu Leu Gly Ser Asp Leu Ile Leu Ile Val Ile Ser Tyr Ser Phe Ile
 210 215 220

Leu Lys Val Val Leu Arg Ile Lys Ala Glu Gly Ala Val Ala Lys Ala
 225 230 235 240

Leu Ser Thr Cys Gly Ser His Phe Ile Leu Ile Leu Phe Phe Ser Thr
 245 250 255

Val Leu Leu Val Leu Val Ile Thr Asn Leu Ala Arg Lys Arg Ile Pro
 260 265 270

Pro Asp Val Pro Ile Leu Leu Asn Ile Leu His His Leu Ile Pro Pro
 275 280 285

Ala Leu Asn Pro Ile Val Tyr Gly Val Arg Thr Lys Glu Ile Lys Gln
 290 295 300

Gly Ile Gln Asn Leu Leu Lys Arg Leu
 305 310

<210> 13

<211> 998

<212> DNA

<213> Homo sapiens

<400> 13

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tacacttttg gctggctttc ccactgtggt ttatgtatgc cttggccacc ctgggtaacc 180
 tgaccattgt cctcatcatt cgtgtggaga ggcgactgca tgagcccatg tacctcttcc 240
 tggccatgct ttccactatt gacctagtcc tctcctctat caccatgccc aagatggcca 300
 gtcttttccct gatgggcatc caggagatcg agttcaacat ttgcctggcc cagatgttcc 360
 ttatccatgc tctgtcagcc gtggagtcag ctgtcctgct ggccatggct tttgaccgct 420
 ttgtggccat ttgccacca ttgcgccatg cttctgtgct gacaggggtg actgtggcca 480
 agattggact atctgccctg accagggggt ttgtattctt cttcccactg cccttcatcc 540
 tcaagtgggt gtcctactgc caaacacata ctgtcacaca ctccttctgt ctgcaccaag 600
 atattatgaa gctgtcctgt actgacacca gggccaatgt ggtttatgga ctcttcatca 660
 tcctctcagt catgggtgtg gactctctct tcattggctt ctcataatc ctcactctgt 720
 gggctgtttt ggagctgtcc tctcgagggt cagcactcaa ggctttcaac acctgcatct 780
 cccacctctg tgctgttctg gtcttctatg taccctcat tgggctctcg gtggtgcata 840
 ggctgggtgg tcccacctcc ctctccatg tggttatggc taataacctac ttgtgctac 900
 cacctgtagt caacccctt gtctatggag ccaagaccaa agagatctgt tcaaggggtcc 960
 tctgtatggt ctcacaaggt ggcaagttag acacctta 998

<210> 14

<211> 324

<212> PRT

<213> Homo sapiens

<400> 14

Met	Gln	Lys	Pro	Gln	Leu	Leu	Val	Pro	Ile	Ile	Ala	Thr	Ser	Asn	Gly
1				5					10					15	

Asn	Leu	Val	His	Ala	Ala	Tyr	Phe	Leu	Leu	Val	Gly	Ile	Pro	Gly	Leu
			20					25					30		

Gly	Pro	Thr	Ile	His	Phe	Trp	Leu	Ala	Phe	Pro	Leu	Cys	Phe	Met	Tyr
		35					40					45			

Ala	Leu	Ala	Thr	Leu	Gly	Asn	Leu	Thr	Ile	Val	Leu	Ile	Ile	Arg	Val
	50					55					60				

Glu	Arg	Arg	Leu	His	Glu	Pro	Met	Tyr	Leu	Phe	Leu	Ala	Met	Leu	Ser
65					70					75				80	

Thr	Ile	Asp	Leu	Val	Leu	Ser	Ser	Ile	Thr	Met	Pro	Lys	Met	Ala	Ser
			85					90						95	

Leu	Phe	Leu	Met	Gly	Ile	Gln	Glu	Ile	Glu	Phe	Asn	Ile	Cys	Leu	Ala
			100					105					110		

Gln	Met	Phe	Leu	Ile	His	Ala	Leu	Ser	Ala	Val	Glu	Ser	Ala	Val	Leu
		115					120					125			

Leu	Ala	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile	Cys	His	Pro	Leu	Arg
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

130	135	140
His Ala Ser Val Leu Thr Gly Cys Thr Val Ala Lys Ile Gly Leu Ser		
145	150	155 160
Ala Leu Thr Arg Gly Phe Val Phe Phe Phe Pro Leu Pro Phe Ile Leu		
	165	170 175
Lys Trp Leu Ser Tyr Cys Gln Thr His Thr Val Thr His Ser Phe Cys		
	180	185 190
Leu His Gln Asp Ile Met Lys Leu Ser Cys Thr Asp Thr Arg Val Asn		
	195	200 205
Val Val Tyr Gly Leu Phe Ile Ile Leu Ser Val Met Gly Val Asp Ser		
	210	215 220
Leu Phe Ile Gly Phe Ser Tyr Ile Leu Ile Leu Trp Ala Val Leu Glu		
225	230	235 240
Leu Ser Ser Arg Arg Ala Ala Leu Lys Ala Phe Asn Thr Cys Ile Ser		
	245	250 255
His Leu Cys Ala Val Leu Val Phe Tyr Val Pro Leu Ile Gly Leu Ser		
	260	265 270
Val Val His Arg Leu Gly Gly Pro Thr Ser Leu Leu His Val Val Met		
	275	280 285
Ala Asn Thr Tyr Leu Leu Leu Pro Pro Val Val Asn Pro Leu Val Tyr		
	290	295 300
Gly Ala Lys Thr Lys Glu Ile Cys Ser Arg Val Leu Cys Met Phe Ser		
305	310	315 320
Gln Gly Gly Lys		

<210> 15
 <211> 952
 <212> DNA
 <213> Homo sapiens

<400> 15
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 agcactggcg attctcctct gtggactctt ctctgtcttc tatacactca ccctgctggg 120
 gaatgggggtc atctttggga ttatctgcct ggactctaag cttcacacac ccatgtactt 180


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cttcctctca cacctggcca tcattgacat gtcctatgct tccaacaatg ttccaagat 240
gttggaacac ctaatgaacc agaaaagcac catctccttt gttccatgca taatgcagac 300
ttttttgtat ttggcttttg ctgttacaga gtgcctgatt ttggtggtga tgcctatga 360
taggtatgtg gccatctgcc accctttcca gtacactgtc atcatgagct ggagagtgtg 420
cacgatacctg gectcaacat gctggataat tagctttctc atggctctgg tccatataac 480
tcatattctg aggccgcctt tttgtggccc acaaaagatc aaccacttta tctgtcaaat 540
catgtccgta ttcaaattgg cctgtgctgg ccctaggctc aaccagggtg tcctatatgc 600
gggttctgcg ttcacgtag aggggccgct ctgcctggag ctggtctcca acttgacat 660
cctgtcgcgc catcttgagg atccagtaat ggggagggcc gcagaccgac ttactcttcc 720
tgctccttcc cacctttgca tgggtgggact cctttttggc agcaccatgg tcatgtacat 780
ggcccccaag tcccgccacc ctgaggagca gcagaaggtc ctttcctgt tttacagcct 840
tttcaaccg atgctgaacc ccttgatcta cagcctgagg aacgcagagg tcaagggtgc 900
cctgaaaaga gtgttggtga aacagagatc aaagtgagg atgccaggga aa 952

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<210> 16

<211> 311

<212> PRT

<213> Homo sapiens

<400> 16

```

Met Gly Gly Lys Gln Pro Trp Val Thr Glu Phe Ile Leu Val Gly Phe
  1                      5                      10                      15

```

```

Gln Val Gly Pro Ala Leu Ala Ile Leu Leu Cys Gly Leu Phe Ser Val
      20                      25                      30

```

```

Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
      35                      40                      45

```

```

Cys Leu Asp Ser Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
      50                      55                      60

```

```

Leu Ala Ile Ile Asp Met Ser Tyr Ala Ser Asn Asn Val Pro Lys Met
      65                      70                      75                      80

```

```

Leu Ala Asn Leu Met Asn Gln Lys Ser Thr Ile Ser Phe Val Pro Cys
      85                      90                      95

```

```

Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala Val Thr Glu Cys Leu
      100                      105                      110

```

```

Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His Pro
      115                      120                      125

```

```

Phe Gln Tyr Thr Val Ile Met Ser Trp Arg Val Cys Thr Ile Leu Ala
      130                      135                      140

```

Ser Thr Cys Trp Ile Ile Ser Phe Leu Met Ala Leu Val His Ile Thr
 145 150 155 160

His Ile Leu Arg Pro Pro Phe Cys Gly Pro Gln Lys Ile Asn His Phe
 165 170 175

Ile Cys Gln Ile Met Ser Val Phe Lys Leu Ala Cys Ala Gly Pro Arg
 180 185 190

Leu Asn Gln Val Val Leu Tyr Ala Gly Ser Ala Phe Ile Val Glu Gly
 195 200 205

Pro Leu Cys Leu Glu Leu Val Ser Asn Leu His Ile Leu Ser Arg His
 210 215 220

Leu Glu Asp Pro Val Met Gly Arg Ala Ala Asp Arg Leu Thr Leu Pro
 225 230 235 240

Ala Pro Ser His Leu Cys Met Val Gly Leu Leu Phe Gly Ser Thr Met
 245 250 255

Val Met Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys
 260 265 270

Val Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Lys Arg Val
 290 295 300

Leu Trp Lys Gln Arg Ser Lys
 305 310

<210> 17
 <211> 991
 <212> DNA
 <213> Homo sapiens

<400> 17
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 cccccagctc cagaggctgc tcttcgtggt gttcctgggc atgtacacag ccactctgct 120
 ggggaacctg gtcattgtcc tctgatcca tgtgagtgcc accctgcaca caccatgta 180
 ctccctcctg aagagcctct ccttcttgga tttctgctac tctccacgg ttgtgcccc 240
 gaccctggtg aacttcttgg ccaagaggaa agtgatctct tattttggct gcatgactca 300
 gatgttcttc tatgcgggtt ttgccaccag tgagtctat ctcacgctg ccatggccta 360
 tgaccgctat gccgctattt gtaacccct gctctactca accatcatgt ctctgaggt 420
 ctgtgcctcg ctgattgtgg gctcctacag tgcaggattc ctcaattctc ttatccacac 480

Ala Val Leu Cys Ile Ser Ser Pro Phe Leu Leu Ile Ile Tyr Ser Tyr
 210 215 220

Val Arg Ile Leu Val Ala Val Leu Leu Met Pro Ser Pro Glu Gly Arg
 225 230 235 240

His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Met
 245 250 255

Phe Tyr Gly Ser Ala Ser Ile Thr Tyr Leu Arg Pro Lys Ser Ser His
 260 265 270

Ser Pro Gly Met Asp Lys Leu Leu Ala Leu Phe Tyr Thr Ala Val Thr
 275 280 285

Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys
 290 295 300

Ala Ala Leu Arg Lys Thr Leu Ser Leu Lys Lys Pro Leu Ala Ile Asn
 305 310 315 320

Arg

<210> 49

<211> 983

<212> DNA

<213> Homo sapiens

<400> 49

gagatgagta tcaactgctc tctgtggcag gagaacagct tgtctgtcaa acgctttgca 60
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 atgttcttag tatcactgac aggaaattca ctcatagccc ttgccatctg caccagtcca 180
 gccctacata ccccaatgta ctctcttctg gccaatgtgt ctctcctgga gatcggctac 240
 acttgctctg tcatacccaa gatgttacag agccttgtaa gtgaggcccg agggatctca 300
 cggaagggt gtgccacaca gatgttttct tttatattct ttggtataac tgagtgtgt 360
 ctattggcag ccatggcttt tgaccgctac atggccatat gctccccact ccactatgca 420
 acacgaatga gtcgtgggt atgtgccat ttggccatag tttcatgggg aatgggatgt 480
 atagtaggt tgggacagac caattttatt ttctcgttga acttctgtgg accctgtgag 540
 atagaccact tcttctgtga ccttccacct gtcctggcac ttgcctgtgg agatacatcc 600
 caaatgagg ctgcaatttt tgtggcggca gtcctctgca tatttagtcc atttttgtctg 660
 attatttctt cctatgtcag aattctgatt gcagtgtctg taatgccctc acgtgagggg 720
 cgccataaag ctctctccac ctgttcttcc catctacttg tagtcacact cttctatggc 780
 tcaacgtctg ccacctatct gagggccaaa tctgatcact caccagaagt ggataaactc 840
 ttggcccttt tctacacagc ggtgacatcc atgctgaacc ccatcatcta tagcttaagg 900
 aacaaggaag tgaaggcagc actgagaaaa acactgagtc tgaagaaagt tctgataatg 960
 aataggtaac tgaggatcct gaa 983

<210> 50
 <211> 321
 <212> PRT
 <213> Homo sapiens

<400> 50
 Met Ser Ile Asn Cys Ser Leu Trp Gln Glu Asn Ser Leu Ser Val Lys
 1 5 10 15
 Arg Phe Ala Phe Ala Lys Phe Ser Glu Val Pro Gly Glu Cys Phe Leu
 20 25 30
 Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn
 35 40 45
 Ser Leu Ile Ala Leu Ala Ile Cys Thr Ser Pro Ala Leu His Thr Pro
 50 55 60
 Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr
 65 70 75 80
 Cys Ser Val Ile Pro Lys Met Leu Gln Ser Leu Val Ser Glu Ala Arg
 85 90 95
 Gly Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Ile Phe
 100 105 110
 Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Phe Asp Arg
 115 120 125
 Tyr Met Ala Ile Cys Ser Pro Leu His Tyr Ala Thr Arg Met Ser Arg
 130 135 140
 Gly Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile
 145 150 155 160
 Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly
 165 170 175
 Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala
 180 185 190
 Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Ala
 195 200 205
 Ala Val Leu Cys Ile Phe Ser Pro Phe Leu Leu Ile Ile Ser Ser Tyr

tggctgtatc tttagtctga aattctgcgg tgcctcatgtc gtcactcact tcttctgtga 540
 tgggccaccc atcctgtcct tgtcttgtgt agacacctca ctgtgtgaga tctgtctctt 600
 catttttgcg ggtttcaacc ttttgagctg caccctcacc atcttgatct cctacttctt 660
 aattctcaac accatcctga aaatgagctc ggcccagggc aggtttaagg cattttccac 720
 ctgtgcatcc cacctcactg ccatctgcct cttctttggc acaacacttt ttatgtacct 780
 gcgccccagg tccagctact ccttgaccca ggaccgcaca gttgctgtca tctacacagt 840
 ggtgatccca gtgctgaacc ccctcatgta ctctttgaga aacaaggatg tgaagaaagc 900
 tttataaag gtttggggta ggaaaacaat ggaatgattt ctcaatgcat taccacatat 960
 ctttagaaag tcaagggaac ttttacctta g 991

<210> 18
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 18
 Met Lys Gly Ala Asn Leu Ser Gln Gly Met Glu Phe Glu Leu Leu Gly
 1 5 10 15
 Leu Thr Thr Asp Pro Gln Leu Gln Arg Leu Leu Phe Val Val Phe Leu
 20 25 30
 Gly Met Tyr Thr Ala Thr Leu Leu Gly Asn Leu Val Met Phe Leu Leu
 35 40 45
 Ile His Val Ser Ala Thr Leu His Thr Pro Met Tyr Ser Leu Leu Lys
 50 55 60
 Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Thr Val Val Pro Gln
 65 70 75 80
 Thr Leu Val Asn Phe Leu Ala Lys Arg Lys Val Ile Ser Tyr Phe Gly
 85 90 95
 Cys Met Thr Gln Met Phe Phe Tyr Ala Gly Phe Ala Thr Ser Glu Cys
 100 105 110
 Tyr Leu Ile Ala Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Asn
 115 120 125
 Pro Leu Leu Tyr Ser Thr Ile Met Ser Pro Glu Val Cys Ala Ser Leu
 130 135 140
 Ile Val Gly Ser Tyr Ser Ala Gly Phe Leu Asn Ser Leu Ile His Thr
 145 150 155 160
 Gly Cys Ile Phe Ser Leu Lys Phe Cys Gly Ala His Val Val Thr His

165	170	175
Phe Phe Cys Asp Gly Pro Pro Ile Leu Ser Leu Ser Cys Val Asp Thr		
180	185	190
Ser Leu Cys Glu Ile Leu Leu Phe Ile Phe Ala Gly Phe Asn Leu Leu		
195	200	205
Ser Cys Thr Leu Thr Ile Leu Ile Ser Tyr Phe Leu Ile Leu Asn Thr		
210	215	220
Ile Leu Lys Met Ser Ser Ala Gln Gly Arg Phe Lys Ala Phe Ser Thr		
225	230	235
Cys Ala Ser His Leu Thr Ala Ile Cys Leu Phe Phe Gly Thr Thr Leu		
245	250	255
Phe Met Tyr Leu Arg Pro Arg Ser Ser Tyr Ser Leu Thr Gln Asp Arg		
260	265	270
Thr Val Ala Val Ile Tyr Thr Val Val Ile Pro Val Leu Asn Pro Leu		
275	280	285
Met Tyr Ser Leu Arg Asn Lys Asp Val Lys Lys Ala Leu Ile Lys Val		
290	295	300
Trp Gly Arg Lys Thr Met Glu		
305	310	

<210> 19
 <211> 967
 <212> DNA
 <213> Homo sapiens

<400> 19
 aaatgtccag aagaaactat actgaactga cagaatttgt tctcttgggt ctaacaagcc 60
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 taggaaactt ggggatgatt attttaatca aagttgattc tcgacttcac actcccatgt 180
 tattttttct ctccagtttg tccattctag atctgtgttt ctccacaaat ttcactccca 240
 aaatgctaga aaatttctta tcagagaaga agaccatttc ctatgcaggt tgtttgatgc 300
 agtgctatgt tgtcattgct gtggtccttg cagagcactg catgttggca gtcattggcat 360
 atgaccgcta tatggccatc tgtaatccat tgctctacag tagcaaaatg tcccaagggtg 420
 tttgtgtcca cctggtcatt gtcccttatg tctatggctt tcttctcagt gtgatggaaa 480
 ccttaaggac ctacaacctc tccttctgtg gaacaaatga aatcaaccat ttctactgtg 540
 ctgatcctcc tcttatcaaa ctggcatgct ctgacacgta cagcaaggag ctgtccatgt 600
 acatagtagc cggctacagc aacgtccagt ctcttctgat cattctcaca tcctacatgt 660
 tcctccttgt cgctatcctc agaagccatt ctgcagaggg aaggaaaaaa gctttttcca 720

catgtggttc ccacctgaca gttgtcacia tcttctatgg aaccctcttc tgcattgcatt 780
 tgagacgtcc cacagacgag tccgtggagc aggggaaaat ggtggctgtg ttttacacca 840
 cagtgtact catgctgaac tccatgatct atggcctcag gaacaaggat gtgaaagagg 900
 cgttgaaaaa agcaatagga aaacaacat tgggaaaata aaaatgctaa gctatcatta 960
 aaaattt 967

<210> 20

<211> 312

<212> PRT

<213> Homo sapiens

<400> 20

Met Ser Arg Arg Asn Tyr Thr Glu Leu Thr Glu Phe Val Leu Leu Gly
 1 5 10 15

Leu Thr Ser Arg Pro Glu Leu Arg Val Ala Phe Leu Ala Leu Phe Leu
 20 25 30

Phe Val Tyr Ile Ala Thr Val Val Gly Asn Leu Gly Met Ile Ile Leu
 35 40 45

Ile Lys Val Asp Ser Arg Leu His Thr Pro Met Leu Phe Phe Leu Ser
 50 55 60

Ser Leu Ser Ile Leu Asp Leu Cys Phe Ser Thr Asn Phe Thr Pro Lys
 65 70 75 80

Met Leu Glu Asn Phe Leu Ser Glu Lys Lys Thr Ile Ser Tyr Ala Gly
 85 90 95

Cys Leu Met Gln Cys Tyr Val Val Ile Ala Val Val Leu Ala Glu His
 100 105 110

Cys Met Leu Ala Val Met Ala Tyr Asp Arg Tyr Met Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Ser Ser Lys Met Ser Gln Gly Val Cys Val His Leu
 130 135 140

Val Ile Val Pro Tyr Val Tyr Gly Phe Leu Leu Ser Val Met Glu Thr
 145 150 155 160

Leu Arg Thr Tyr Asn Leu Ser Phe Cys Gly Thr Asn Glu Ile Asn His
 165 170 175

Phe Tyr Cys Ala Asp Pro Pro Leu Ile Lys Leu Ala Cys Ser Asp Thr
 180 185 190

Tyr Ser Lys Glu Leu Ser Met Tyr Ile Val Ala Gly Tyr Ser Asn Val
 195 200 205

Gln Ser Leu Leu Ile Ile Leu Thr Ser Tyr Met Phe Ile Leu Val Ala
 210 215 220

Ile Leu Arg Ser His Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Thr Leu Phe
 245 250 255

Cys Met His Leu Arg Arg Pro Thr Asp Glu Ser Val Glu Gln Gly Lys
 260 265 270

Met Val Ala Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Ser Met
 275 280 285

Ile Tyr Gly Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Ala
 290 295 300

Ile Gly Lys Gln Thr Leu Gly Lys
 305 310

<210> 21

<211> 952

<212> DNA

<213> Homo sapiens

<400> 21

atgttgtccc caaaccacac catagtgaca gaattcattc tcttaggact gacagacgac 60
 ccagtgctag agaagatcct gtttggggtg ttcctggcga tctacctaat cacactggca 120
 ggcaacctgt gcatgatcct gctgatcagg accaattccc aactgcaaac acccatgtat 180
 ttcttccttg gtcacctctc ctttgtagac atttgcattt cttccaatgt tactccaaat 240
 atgctgcaca atttcctctc agaacagaag accatctcct acgctggatg cttcacacag 300
 tgtcttctct tcatcgccct agtgatcact gagttttact tccttgcttc aatggcattg 360
 gatcgctatg tagccatttg cagcccttta cattacagtt ccaggatgtc caagaacatt 420
 tgcattctctc tggtcactgt gccttacatg tatggcttcc ttaatgggct ctctcagaca 480
 ctgctgacct ttcacttata cttctgtggc tcccttgaaa tcaatcattt ctactgcgct 540
 gatcctctc ttatcatgct ggctgctct gacaccctg tcaaaaagat ggcaatgttt 600
 gtagttgcag gctttactct ctcaagctct ctcttcatca ttcttctgtc ctatcttttc 660
 atttttgcag cgatcttcag gatccgttct gctgaaggca ggcacaaagc cttttctacg 720
 tgtgcttccc acctgacaat agtcactttg ttttatggaa ccctcttctg catgtacgta 780
 aggcctccat cagagaagtc tgtagaggag tccaaaataa ttgcagtctt ttatactttt 840
 ttgagcccaa tgctgaaccc attgatctat agcctacgga acagagatgt aatccttgcc 900
 atacaacaaa tgattagggg aaaatccttt tgtaaaattg cagtttaggc ct 952

<210> 22

<211> 315

<212> PRT

<213> Homo sapiens

<400> 22

Met Leu Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu
20 25 30

Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu
35 40 45

Ile Arg Thr Asn Ser Gln Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly
50 55 60

His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn
65 70 75 80

Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly
85 90 95

Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe
100 105 110

Tyr Phe Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser
115 120 125

Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Ile Ser Leu
130 135 140

Val Thr Val Pro Tyr Met Tyr Gly Phe Leu Asn Gly Leu Ser Gln Thr
145 150 155 160

Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His
165 170 175

Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr
180 185 190

Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Thr Leu Ser
195 200 205

Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala

210 215 220
 Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr
 225 230 235 240
 Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe
 245 250 255
 Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys
 260 265 270
 Ile Ile Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu
 275 280 285
 Ile Tyr Ser Leu Arg Asn Arg Asp Val Ile Leu Ala Ile Gln Gln Met
 290 295 300
 Ile Arg Gly Lys Ser Phe Cys Lys Ile Ala Val
 305 310 315

<210> 23
 <211> 943
 <212> DNA
 <213> Homo sapiens

<400> 23
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 ccacgcccc atgtacatcc tgctcgccaa cttctccttc ttggagatat gttatgtcac 240
 ctccacagtc cccagcatgc tggccaactt cctctctgac accaagatca tctcgttctc 300
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 ggcagttatg gcatttgatc gataccttgc catctgtcgg cctctacgct atccaaccat 420
 tatgaccaga cgtctctgta ccaatcttgt ggtcaattgc tgggtacttg gtttcatctg 480
 gttcttgatt cctatcgtea acatctccca aatgtccttc tgtggatcta ggattattga 540
 ccacttccta tgtgacccag ctccctcttct aactctcaact tgcaaaaaag gccctgtgat 600
 agagcttgte ttttctgtct taagtccctt gcctgtcttt atgctctttc tcttcattgt 660
 ggggtcctat gctctggctg tgagagctgt gttgagggtc ccttcagcag ctgggagaag 720
 aaaggctttc tccacctgtg ggtctcacct ggctgtggtt tcaactgttct acggctcagt 780
 actggtcatt tatgggagcc caccatctaa gaatgaagct ggaaagcaga agactgtgac 840
 tctgttttat tctgttggtta cccactgct taacctgtg atatatagtc ttaggaacaa 900
 agatatgaga aaagctctga agaaattttg gggaacataa aat 943

<210> 24
 <211> 311
 <212> PRT

<213> Homo sapiens

<400> 24

Met Lys Ile Phe Asn Ser Pro Ser Asn Ser Ser Thr Phe Thr Gly Phe
1 5 10 15

Ile Leu Leu Gly Phe Pro Cys Pro Arg Glu Gly Gln Ile Leu Leu Phe
20 25 30

Val Leu Phe Thr Val Val Tyr Leu Leu Thr Leu Met Gly Asn Gly Ser
35 40 45

Ile Ile Cys Ala Val His Trp Asp Gln Arg Leu His Ala Pro Met Tyr
50 55 60

Ile Leu Leu Ala Asn Phe Ser Phe Leu Glu Ile Cys Tyr Val Thr Ser
65 70 75 80

Thr Val Pro Ser Met Leu Ala Asn Phe Leu Ser Asp Thr Lys Ile Ile
85 90 95

Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly
100 105 110

Ser Thr Glu Cys Phe Phe Leu Ala Val Met Ala Phe Asp Arg Tyr Leu
115 120 125

Ala Ile Cys Arg Pro Leu Arg Tyr Pro Thr Ile Met Thr Arg Arg Leu
130 135 140

Cys Thr Asn Leu Val Val Asn Cys Trp Val Leu Gly Phe Ile Trp Phe
145 150 155 160

Leu Ile Pro Ile Val Asn Ile Ser Gln Met Ser Phe Cys Gly Ser Arg
165 170 175

Ile Ile Asp His Phe Leu Cys Asp Pro Ala Pro Leu Leu Thr Leu Thr
180 185 190

Cys Lys Lys Gly Pro Val Ile Glu Leu Val Phe Ser Val Leu Ser Pro
195 200 205

Leu Pro Val Phe Met Leu Phe Leu Phe Ile Val Gly Ser Tyr Ala Leu
210 215 220

Val Val Arg Ala Val Leu Arg Val Pro Ser Ala Ala Gly Arg Arg Lys
225 230 235 240

Ala Phe Ser Thr Cys Gly Ser His Leu Ala Val Val Ser Leu Phe Tyr
 245 250 255

Gly Ser Val Leu Val Met Tyr Gly Ser Pro Pro Ser Lys Asn Glu Ala
 260 265 270

Gly Lys Gln Lys Thr Val Thr Leu Phe Tyr Ser Val Val Thr Pro Leu
 275 280 285

Leu Asn Pro Val Ile Tyr Ser Leu Arg Asn Lys Asp Met Arg Lys Ala
 290 295 300

Leu Lys Lys Phe Trp Gly Thr
 305 310

<210> 25
 <211> 958
 <212> DNA
 <213> Homo sapiens

<400> 25
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 gctgggaaat ggagccatca tctatgcagt gagatgcaac ccactactac acacccccat 180
 gtactttctg ctgggaaatt ttgccttcct tgagatctgg tatgtgtcct ccactattcc 240
 taacatgcta gtcaacattc tctccaagac caaggccatc tcattttctg ggtgcttcct 300
 ccagttctat ttcttctttt cactgggaac aactgaatgt ctctttctgg cagtaatggc 360
 ttatgatcga tacctggcca tctgccacc actgcagtac cctgccatca tgactgtaag 420
 gttctgtggt aagctggtgt ctttctgttg gcttattgga ttcttgatg acccaattcc 480
 cattttctac atctcccaac tccccttctg tggctcctaat atcattgatc acttctctgtg 540
 tgacatggac ccattgatgg ctctatcctg tgccccagct cccataactg aatgtatttt 600
 ctatactcag agctcccttg tctctttttt cactagtagt tacattcttc gatcctatat 660
 cctgttacta acagctgttt ttcaggtccc ttctgcagct ggtcggagaa aagccttctc 720
 tacctgtggt tctcatttgg ttgtggtatc tcttttctat gggacagtca tggtaatgta 780
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<210> 26
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Asn Arg Ser Ala Thr His Ile Val Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15

Phe Pro Gly Cys Trp Lys Ile Gln Ile Phe Leu Phe Ser Leu Phe Leu
20 25 30

Val Ile Tyr Val Leu Thr Leu Leu Gly Asn Gly Ala Ile Ile Tyr Ala
35 40 45

Val Arg Cys Asn Pro Leu Leu His Thr Pro Met Tyr Phe Leu Leu Gly
50 55 60

Asn Phe Ala Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn
65 70 75 80

Met Leu Val Asn Ile Leu Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly
85 90 95

Cys Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys
100 105 110

Leu Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys His
115 120 125

Pro Leu Gln Tyr Pro Ala Ile Met Thr Val Arg Phe Cys Gly Lys Leu
130 135 140

Val Ser Phe Cys Trp Leu Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile
145 150 155 160

Phe Tyr Ile Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile Asp His
165 170 175

Phe Leu Cys Asp Met Asp Pro Leu Met Ala Leu Ser Cys Ala Pro Ala
180 185 190

Pro Ile Thr Glu Cys Ile Phe Tyr Thr Gln Ser Ser Leu Val Leu Phe
195 200 205

Phe Thr Ser Met Tyr Ile Leu Arg Ser Tyr Ile Leu Leu Leu Thr Ala
210 215 220

Val Phe Gln Val Pro Ser Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr
225 230 235 240

Cys Gly Ser His Leu Val Val Val Ser Leu Phe Tyr Gly Thr Val Met
245 250 255

Val Met Tyr Val Ser Pro Thr Tyr Gly Ile Pro Thr Leu Leu Gln Lys
260 265 270

Ile Leu Thr Leu Val Tyr Ser Val Thr Thr Pro Leu Phe Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Leu Ala Leu Arg Asn Val
 290 295 300

Leu Phe Gly Met Arg Ile Arg Gln Asn Ser
 305 310

<210> 27
 <211> 957
 <212> DNA
 <213> Homo sapiens

<400> 27
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 tattgtctgt gcagtgaat tggacaggcg gctccacaca cccatgtaca tccttctggg 180
 aaactttgcc tttctagaga tctggtacat ttctccact gtcccaaaca tgctagtcaa 240
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 ggccatctgt cgtccattac actaccctc catcatgact gggaagttct gtataattct 420
 ggtctgtgta tgctgggtag gcggatttct ctgctatcca gtccctattg ttcttatctc 480
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 gatgattatc tttggggcct tctctccat cttgggatct tacactctgg tcatcagagc 660
 tgtgctttgt attccctctg gtgctggtcg aactaaagct ttctccacat gtgggtccca 720
 cctaattggtg gtgtctctat tctatggaac ccttatggtg atgtatgtga gccaacatc 780
 aggaaccca gcaggaatgc agaagatcat cactctggtg tacacagcaa tgactccatt 840
 cttaaatccc cttatctata gtcttcgaaa caaagacatg aaagatgctc taaagagagt 900
 cctgggggta acagttagcc aaaactgaga tatctttgaa aaagaagcca aattggc 957

<210> 28
 <211> 307
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met His Phe Val Thr Glu Phe Val Leu Leu Gly Phe His Gly Gln Arg
 1 5 10 15

Glu Met Gln Ser Cys Phe Phe Ser Phe Ile Leu Val Leu Tyr Leu Leu
 20 25 30

Thr Leu Leu Gly Asn Gly Ala Ile Val Cys Ala Val Lys Leu Asp Arg

35	40	45
Arg Leu His Thr Pro Met Tyr Ile Leu Leu Gly Asn Phe Ala Phe Leu		
50	55	60
Glu Ile Trp Tyr Ile Ser Ser Thr Val Pro Asn Met Leu Val Asn Ile		
65	70	75 80
Leu Ser Glu Ile Lys Thr Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe		
85	90	95
Tyr Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Phe Phe Leu Ser Val		
100	105	110
Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr Pro		
115	120	125
Ser Ile Met Thr Gly Lys Phe Cys Ile Ile Leu Val Cys Val Cys Trp		
130	135	140
Val Gly Gly Phe Leu Cys Tyr Pro Val Pro Ile Val Leu Ile Ser Gln		
145	150	155 160
Leu Pro Phe Cys Gly Pro Asn Ile Ile Asp His Leu Val Cys Asp Pro		
165	170	175
Gly Pro Leu Phe Ala Leu Ala Cys Ile Ser Ala Pro Ser Thr Glu Leu		
180	185	190
Ile Cys Tyr Thr Phe Asn Ser Met Ile Ile Phe Gly Pro Phe Leu Ser		
195	200	205
Ile Leu Gly Ser Tyr Thr Leu Val Ile Arg Ala Val Leu Cys Ile Pro		
210	215	220
Ser Gly Ala Gly Arg Thr Lys Ala Phe Ser Thr Cys Gly Ser His Leu		
225	230	235 240
Met Val Val Ser Leu Phe Tyr Gly Thr Leu Met Val Met Tyr Val Ser		
245	250	255
Pro Thr Ser Gly Asn Pro Ala Gly Met Gln Lys Ile Ile Thr Leu Val		
260	265	270
Tyr Thr Ala Met Thr Pro Phe Leu Asn Pro Leu Ile Tyr Ser Leu Arg		
275	280	285
Asn Lys Asp Met Lys Asp Ala Leu Lys Arg Val Leu Gly Leu Thr Val		

290

295

300

Ser Gln Asn

305

<210> 29

<211> 987

<212> DNA

<213> Homo sapiens

<400> 29

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acatatgcac tttaggaggc aatgttttta tcattgtggt gaccatagct gattcccacc 180
tacacacacc catgtattat ttcctaggaa atcttgccct tattgacatc tgctacacta 240
ctactaatgt cccccagatg atgggtgcac ttctgtcaga gaagaaaatc atttcctatg 300
gaggctgtgt gaccagctc tttgcattca ttttctttgt tggctcagag tgtctcctcc 360
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ttatgaacaa ggccctgtgc agctggttag cagcctcatg ctggacatgt gggtttctca 480
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attatttctt ctgtgacata cctcccttgc tcactctgtc ttgtgggtgat acttccctca 600
atgaactggc tttgctgtcc attgggatcc tcataagctg gactccttcc ctgtgcatca 660
tcctttccta cctttacatc atctccacca tcctgaggat ccgttcctct gaggggaggc 720
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ctatcttcac gtatgtgagg cccatctcat cttactctct agagaaagat agattgatct 840
cagtgtgta tagtgtgtgc acacccatgc tgaatcctgt aatttatacg ctaaggaata 900
aggacatcaa agaggctgtg aaggccatag ggagaaagtg gcagccacca gttttctctt 960
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<210> 30

<211> 317

<212> PRT

<213> Homo sapiens

<400> 30

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Met Glu Gly Lys Asn Gln Thr Ala Pro Ser Glu Phe Ile Ile Leu Gly
  1              5              10             15

Phe Asp His Leu Asn Glu Leu Gln Tyr Leu Leu Phe Thr Ile Phe Phe
      20              25             30

Leu Thr Tyr Ile Cys Thr Leu Gly Gly Asn Val Phe Ile Ile Val Val
      35              40             45

Thr Ile Ala Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Gly
      50              55             60

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Asn Leu Ala Leu Ile Asp Ile Cys Tyr Thr Thr Thr Asn Val Pro Gln
 65 70 75 80

Met Met Val His Leu Leu Ser Glu Lys Lys Ile Ile Ser Tyr Gly Gly
 85 90 95

Cys Val Thr Gln Leu Phe Ala Phe Ile Phe Phe Val Gly Ser Glu Cys
 100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Ile Ala Ile Cys Lys
 115 120 125

Pro Leu Arg Tyr Ser Phe Ile Met Asn Lys Ala Leu Cys Ser Trp Leu
 130 135 140

Ala Ala Ser Cys Trp Thr Cys Gly Phe Leu Asn Ser Val Leu His Thr
 145 150 155 160

Val Leu Thr Phe His Leu Pro Phe Cys Gly Asn Asn Gln Ile Asn Tyr
 165 170 175

Phe Phe Cys Asp Ile Pro Pro Leu Leu Ile Leu Ser Cys Gly Asp Thr
 180 185 190

Ser Leu Asn Glu Leu Ala Leu Leu Ser Ile Gly Ile Leu Ile Ser Trp
 195 200 205

Thr Pro Phe Leu Cys Ile Ile Leu Ser Tyr Leu Tyr Ile Ile Ser Thr
 210 215 220

Ile Leu Arg Ile Arg Ser Ser Glu Gly Arg His Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Leu Ile Val Ile Leu Tyr Tyr Gly Ser Ala Ile
 245 250 255

Phe Thr Tyr Val Arg Pro Ile Ser Ser Tyr Ser Leu Glu Lys Asp Arg
 260 265 270

Leu Ile Ser Val Leu Tyr Ser Val Val Thr Pro Met Leu Asn Pro Val
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Ile Lys Glu Ala Val Lys Ala Ile
 290 295 300

Gly Arg Lys Trp Gln Pro Pro Val Phe Ser Ser Asp Ile
 305 310 315

<210> 31
 <211> 966
 <212> DNA
 <213> Homo sapiens

<400> 31
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 cgctctgggtg ggaaacctgg gcataattgt ggttgtaaga atcaatccta agctccatac 180
 caccatgtac tttttcctca gtcactctatc ctttttggat acttggttatt ccaatgtatt 240
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 gatggcttat gacttggtta tggctgtttg taacccccctg ctctacacag tggctatgtc 420
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 ataaat

<210> 32
 <211> 316
 <212> PRT
 <213> Homo sapiens

<400> 32
 Met Val Pro Glu Glu Arg Asn Gln Ser Ser Val Thr Thr Phe Ile Leu
 1 5 10 15
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 20 25 30
 Phe Leu Thr Thr Tyr Thr Val Ala Leu Val Gly Asn Leu Gly Ile Ile
 35 40 45
 Val Val Val Arg Ile Asn Pro Lys Leu His Thr Thr Met Tyr Phe Phe
 50 55 60
 Leu Ser His Leu Ser Phe Leu Asp Thr Cys Tyr Ser Asn Val Phe Thr
 65 70 75 80

Pro Lys Leu Leu Glu Ile Leu Val Val Glu Asp Arg Thr Ile Ser Phe
85 90 95

Lys Gly Cys Met Val Gln Phe Phe Phe Gly Cys Ala Phe Val Ile Thr
100 105 110

Glu Met Phe Met Leu Ala Val Met Ala Tyr Asp Leu Phe Met Ala Val
115 120 125

Cys Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Pro Lys Leu Cys Ala
130 135 140

Leu Leu Val Ala Gly Thr Tyr Thr Trp Gly Gly Leu Cys Ser Leu Thr
145 150 155 160

Leu Thr Tyr Ser Leu Leu Val Leu Ser Tyr Cys Gly Ser Asn Ile Ile
165 170 175

Asn His Phe Gly Cys Glu Tyr Ser Ala Ile Leu Ser Leu Ser Cys Ser
180 185 190

Asp Pro Tyr Phe Asn Gln Met Ala Cys Leu Val Ile Ser Ile Phe Ser
195 200 205

Glu Ala Cys Ser Leu Leu Ala Ile Leu Ala Phe Tyr Val Phe Ile Val
210 215 220

Ala Thr Val Ile Lys Met Leu Ser Thr Gly Gly Pro Gln Lys Ala Ile
225 230 235 240

Ser Thr Cys Ala Ser His Leu Thr Thr Val Ser Ile Phe His Gly Val
245 250 255

Ile Leu Leu Leu Tyr Cys Val Pro Asn Ser Lys Ser Ser Trp Leu Leu
260 265 270

Val Lys Val Ala Thr Val Leu Phe Thr Val Ile Ile Pro Met Leu Asn
275 280 285

Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Thr Val Arg
290 295 300

Lys Leu Ile Asn Ser Gln Ser Pro Phe His Ser Lys
305 310 315

<210> 33

<211> 1019

<212> DNA

<213> Homo sapiens

<400> 33

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tcccttccaa aatcgatgaa tgagacaaat cattctcggg tgacagaatt tgtgttgctg 60
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ctagcaattc tgttgggcaa ctttctcatc atcctcactg tgacctcaga ttcccgcctt 180
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gcagctatgt caaaactgaa gagtcggtat ctgaagccta gtcaggtttc tgtagtcata 960
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<210> 34

<211> 324

<212> PRT

<213> Homo sapiens

<400> 34

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Met Asn Glu Thr Asn His Ser Arg Val Thr Glu Phe Val Leu Leu Gly
  1              5              10              15
```

```
Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Thr Phe Ser
      20              25              30
```

```
Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
      35              40              45
```

```
Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala
      50              55              60
```

```
Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Phe Ala Thr Pro Lys
      65              70              75              80
```

```
Met Ile Ala Asp Phe Leu Val Glu Arg Lys Thr Ile Ser Phe Asp Ala
      85              90              95
```

```
Cys Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met
```

100	105	110
Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys		
115	120	125
Pro Leu His Tyr Met Thr Val Met Ser Arg Arg Val Cys Val Val Leu		
130	135	140
Val Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr Thr Ser Gln Leu		
145	150	155
Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Lys Val Asp Ser		
165	170	175
Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Thr		
180	185	190
Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly Phe Leu Ser Leu		
195	200	205
Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val Ile Leu Val Thr		
210	215	220
Val Arg Asn Arg Ser Ser Ala Ser Met Ala Lys Ala Arg Ser Thr Leu		
225	230	235
Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe		
245	250	255
Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp Lys Val Leu Ala		
260	265	270
Val Phe Tyr Thr Ile Phe Thr Leu Ile Leu Asn Pro Val Ile Tyr Thr		
275	280	285
Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys Leu Lys Ser Arg		
290	295	300
Tyr Leu Lys Pro Ser Gln Val Ser Val Val Ile Arg Asn Val Leu Phe		
305	310	315
Leu Glu Thr Lys		

<210> 35
 <211> 986
 <212> DNA

<213> Homo sapiens

<400> 35

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catcactgtg tcctatgccc atgtggcagc tgcagtcctg cgaatccgct ctgcagaggg 60
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gacgggcgtc ttcagctaca caaggctggg ttcagtggag tcttcggaca aggacaaggg 180
cattggcatc ctcaacactg tcatcagccc catgccgaac ccactcatct actggacatc 240
tctgctggac gtcgggtgca tcagtcactg ttcctccgat gctggcgtgt ctccaggccc 300
accagtgcag agttccctat gctgcctgca gttcacagct cttctttccc cacctcctgg 360
ctggggtgga ctgtcacctc ttaatagcca tggcctatga ccgctacctg gctatctgtc 420
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gctgcactgt ctccttcac c aatgctctga ctcacacagt ggctgtgtct gcgcttgact 540
tctgtggccc taatgtggtc aaccacttct actgtgacct cccacctctt ttccagctct 600
cttgctccag catccacctc aatgggcagc tgctgcttgt gggggccacc ttcataggag 660
tgatcccat gatctttatc tcagtgtcct atgccacgt cacagctgca atattacaaa 720
tccgctcagc tgaggggagg aagaaggctt tctccacatg tggctccac ctactgtgg 780
tccgaatctt ttatggaact ggcttcttca gttacatgtg tctgggctca gtctcagcct 840
cagacaaaga taaggggatt gggatcctca acactatcct cagtcccatg ctgaaccag 900
tcatttacag cctccagaac cctgatgtgc agggcacct gaaaagggtg ctgacagggg 960
agaggccccc agcttgagaa gatggg 986
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<210> 36

<211> 320

<212> PRT

<213> Homo sapiens

<400> 36

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Met Pro Met Trp Gln Leu Gln Ser Cys Glu Ser Ala Leu Gln Arg Ala
  1              5              10             15

Glu Arg Lys Pro Ser Pro Arg Val Val Pro Thr Ser Leu Trp Trp Ala
      20              25             30

Ser Ser Met Gly Arg Ala Ser Ser Ala Thr Gln Gly Trp Val Gln Trp
      35              40             45

Ser Leu Arg Thr Arg Thr Arg Ala Leu Ala Ser Ser Thr Leu Ser Ser
      50              55             60

Ala Pro Cys Arg Thr His Ser Ser Thr Gly His Leu Cys Trp Thr Ser
      65              70             75             80

Gly Ala Ser Val Thr Val Pro Pro Met Leu Ala Cys Leu Gln Ala His
      85              90             95

Gln Cys Arg Val Pro Tyr Ala Ala Cys Ser Ser Gln Leu Phe Phe Pro
      100             105            110
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His Leu Leu Ala Gly Val Asp Cys His Leu Leu Ile Ala Met Ala Tyr
115 120 125

Asp Arg Tyr Leu Ala Ile Cys Gln Leu Leu Thr Asn Ser Thr Arg Met
130 135 140

Ser Cys Glu Val Gln Gly Ala Leu Val Gly Ile Cys Cys Thr Val Ser
145 150 155 160

Phe Ile Asn Ala Leu Thr His Thr Val Ala Val Ser Ala Leu Asp Phe
165 170 175

Cys Gly Pro Asn Val Val Asn His Phe Tyr Cys Asp Leu Pro Pro Leu
180 185 190

Phe Gln Leu Ser Cys Ser Ser Ile His Leu Asn Gly Gln Leu Leu Leu
195 200 205

Val Gly Ala Thr Phe Ile Gly Val Ile Pro Met Ile Phe Ile Ser Val
210 215 220

Ser Tyr Ala His Val Thr Ala Ala Ile Leu Gln Ile Arg Ser Ala Glu
225 230 235 240

Gly Arg Lys Lys Ala Phe Ser Thr Cys Gly Ser His Leu Thr Val Val
245 250 255

Arg Ile Phe Tyr Gly Thr Gly Phe Phe Ser Tyr Met Cys Leu Gly Ser
260 265 270

Val Ser Ala Ser Asp Lys Asp Lys Gly Ile Gly Ile Leu Asn Thr Ile
275 280 285

Leu Ser Pro Met Leu Asn Pro Val Ile Tyr Ser Leu Gln Asn Pro Asp
290 295 300

Val Gln Gly Thr Leu Lys Arg Val Leu Thr Gly Lys Arg Pro Pro Ala
305 310 315 320

<210> 37

<211> 1023

<212> DNA

<213> Homo sapiens

<400> 37

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agactatctt cttcttcctg tttctagcaa tctacctctt cactctcatg ggaaatttag 180
gactgatttt agtggtcatt agggattccc agctccacaa acccatgtac tattttctga 240
gtatgttgtc ttctgtggat gctgctatt cctcagttat taccctcaat atgttagtag 300
attttacgac aaagaataaa gtcatttcat tccttggatg tgtagcacag gtgtttcttg 360
cttgtagttt tggaaccaca gaatgcttct tcttggctgc aatggcttat gatcgctatg 420
tagccatcta caacctctc ctgtattcag tgagcatgtc acccagagtc tacatgccac 480
tcatcaatgc ttctatgtt gctggcattt tacatgctac tatacatata gtggctacat 540
ttagcctatc cttctgtgga gccaatgaaa ttaggcgtgt cttttgtgat atccctctc 600
tccttgctat ttcttattct gacactcaca caaaccagct tctactcttc tactttgtgg 660
gctctatcga gctggtcact atcctgattg ttctgatctc ctatggtttg attctgttgg 720
ccattctgaa gatgtattct gctgaaggga ggagaaaagt cttctccaca tgtggagctc 780
acctaactgg agtgtcaatt tattatggga caatcctctt catgtatgtg agaccaagtt 840
ccagctatgc ttcggaccat gacatgatag tgtcaatatt ttacaccatt gtgattccct 900
tgctgaatcc cgtcatctac agtttgagga acaaagatgt aaaagactca atgaaaaaaaa 960
tgtttgggaa aaatcaggtt atcaataaag tatattttca tactaaaaaa taaattataa 1020
aag 1023
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<210> 38

<211> 334

<212> PRT

<213> Homo sapiens

<400> 38

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Met Asn Cys Asn Phe Met His Ile Phe Lys Phe Val Leu Asp Phe Asn
  1                      5                      10                      15

Met Lys Asn Val Thr Glu Val Thr Leu Phe Val Leu Lys Gly Phe Thr
                20                      25                      30

Asp Asn Leu Glu Leu Gln Thr Ile Phe Phe Phe Leu Phe Leu Ala Ile
                35                      40                      45

Tyr Leu Phe Thr Leu Met Gly Asn Leu Gly Leu Ile Leu Val Val Ile
  50                      55                      60

Arg Asp Ser Gln Leu His Lys Pro Met Tyr Tyr Phe Leu Ser Met Leu
  65                      70                      75                      80

Ser Ser Val Asp Ala Cys Tyr Ser Ser Val Ile Thr Pro Asn Met Leu
                85                      90                      95

Val Asp Phe Thr Thr Lys Asn Lys Val Ile Ser Phe Leu Gly Cys Val
  100                      105                      110
```


Ala Gln Val Phe Leu Ala Cys Ser Phe Gly Thr Thr Glu Cys Phe Leu
115 120 125

Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Tyr Asn Pro Leu
130 135 140

Leu Tyr Ser Val Ser Met Ser Pro Arg Val Tyr Met Pro Leu Ile Asn
145 150 155 160

Ala Ser Tyr Val Ala Gly Ile Leu His Ala Thr Ile His Thr Val Ala
165 170 175

Thr Phe Ser Leu Ser Phe Cys Gly Ala Asn Glu Ile Arg Arg Val Phe
180 185 190

Cys Asp Ile Pro Pro Leu Leu Ala Ile Ser Tyr Ser Asp Thr His Thr
195 200 205

Asn Gln Leu Leu Leu Phe Tyr Phe Val Gly Ser Ile Glu Leu Val Thr
210 215 220

Ile Leu Ile Val Leu Ile Ser Tyr Gly Leu Ile Leu Leu Ala Ile Leu
225 230 235 240

Lys Met Tyr Ser Ala Glu Gly Arg Arg Lys Val Phe Ser Thr Cys Gly
245 250 255

Ala His Leu Thr Gly Val Ser Ile Tyr Tyr Gly Thr Ile Leu Phe Met
260 265 270

Tyr Val Arg Pro Ser Ser Ser Tyr Ala Ser Asp His Asp Met Ile Val
275 280 285

Ser Ile Phe Tyr Thr Ile Val Ile Pro Leu Leu Asn Pro Val Ile Tyr
290 295 300

Ser Leu Arg Asn Lys Asp Val Lys Asp Ser Met Lys Lys Met Phe Gly
305 310 315 320

Lys Asn Gln Val Ile Asn Lys Val Tyr Phe His Thr Lys Lys
325 330

<210> 39

<211> 946

<212> DNA

<213> Homo sapiens

<400> 39

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atggccagaa aagatatggc tcacatcaat tgcacccagg cgacagagtt tattcttgtg 60
ggcctcacag accatcagga gttgaagatg cccctctttg tgctattctt atccatctac 120
ctcttcacag tggtaggcaa cttgggtttg atcctactca ttagagcgga tacaagtctc 180
aacacaccaa tgtacttctt tcttagcaac ctagcttttg tggatttctg ttactcttct 240
gtcattacac ccaaaatgct tgggaatttc ttgtacaaac aaaatgttat atcctttgat 300
gcatgtgcta ctcaactggg ctgctttctc accttcatga tatcagaatc cttgctactg 360
gcttccatgg cctatgaccg atatgtggcc atttgaacc ctctattgta tatggttgta 420
atgactccag gaatctgcat tcaacttgta gcagttcctt atagctatag cttcctaata 480
gcactatttc acaccatcct caccttcgcg ctctcctatt gccactccaa cattgtcaac 540
catttctatt gtgatgacat gcctctcctc aggctaactt gctcagacac tgccttcaaa 600
cagctctgga tctttgcctg tgctggatc atgttcattt cctcccttct gattgtcttt 660
gtctcctaca tgttcatcat ttctgccatc ctgaggatgc attcagctga gggaagacag 720
aaggctttct cgacgtgtgg ctctcacatg ctggcagtca ccatattcta tgggaccctc 780
atctttatgt acttacagcc tagctctagc catgccctgg acacagacaa gatggcctct 840
gtcttctaca cagtgatcat tcccatgttg aatcccttaa tctatagcct ccagaataag 900
gaggtgaaag aagctctgaa gaaaatcatt atcaataaaa actaga 946
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<210> 40

<211> 314

<212> PRT

<213> Homo sapiens

<400> 40

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Met Ala Arg Lys Asp Met Ala His Ile Asn Cys Thr Gln Ala Thr Glu
  1             5             10             15

Phe Ile Leu Val Gly Leu Thr Asp His Gln Glu Leu Lys Met Pro Leu
      20             25             30

Phe Val Leu Phe Leu Ser Ile Tyr Leu Phe Thr Val Val Gly Asn Leu
      35             40             45

Gly Leu Ile Leu Leu Ile Arg Ala Asp Thr Ser Leu Asn Thr Pro Met
      50             55             60

Tyr Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Phe Cys Tyr Ser Ser
      65             70             75             80

Val Ile Thr Pro Lys Met Leu Gly Asn Phe Leu Tyr Lys Gln Asn Val
      85             90             95

Ile Ser Phe Asp Ala Cys Ala Thr Gln Leu Gly Cys Phe Leu Thr Phe
      100            105            110

Met Ile Ser Glu Ser Leu Leu Leu Ala Ser Met Ala Tyr Asp Arg Tyr
```

115	120	125
Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Val Met Thr Pro Gly		
130	135	140
Ile Cys Ile Gln Leu Val Ala Val Pro Tyr Ser Tyr Ser Phe Leu Met		
145	150	155
Ala Leu Phe His Thr Ile Leu Thr Phe Arg Leu Ser Tyr Cys His Ser		
165	170	175
Asn Ile Val Asn His Phe Tyr Cys Asp Asp Met Pro Leu Leu Arg Leu		
180	185	190
Thr Cys Ser Asp Thr Arg Phe Lys Gln Leu Trp Ile Phe Ala Cys Ala		
195	200	205
Gly Ile Met Phe Ile Ser Ser Leu Leu Ile Val Phe Val Ser Tyr Met		
210	215	220
Phe Ile Ile Ser Ala Ile Leu Arg Met His Ser Ala Glu Gly Arg Gln		
225	230	235
Lys Ala Phe Ser Thr Cys Gly Ser His Met Leu Ala Val Thr Ile Phe		
245	250	255
Tyr Gly Thr Leu Ile Phe Met Tyr Leu Gln Pro Ser Ser Ser His Ala		
260	265	270
Leu Asp Thr Asp Lys Met Ala Ser Val Phe Tyr Thr Val Ile Ile Pro		
275	280	285
Met Leu Asn Pro Leu Ile Tyr Ser Leu Gln Asn Lys Glu Val Lys Glu		
290	295	300
Ala Leu Lys Lys Ile Ile Ile Asn Lys Asn		
305	310	

<210> 41
 <211> 952
 <212> DNA
 <213> Homo sapiens

<400> 41
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 gccttggcca ccctgggtaa cctgaccatt gtcctcatca ttcgtgtgga gaggcgactg 180

catgagccca tgtacctctt cctggccatg ctttccacta ttgacctagt cctctcctct 240
atcaccatgc ccaagatggc cagtcttttc ctgatgggca tccaggagat cgagttcaac 300
atttgcctgg cccagatggt ccttatccat gctctgtcag ccgtggagtc agctgtcctg 360
ctggccatgg cttttgaccg ctttgtggcc atttgcacc cattgcgcca tgcttctgtg 420
ctgacagggg gtactgtggc caagattgga ctatctgccc tgaccagggg gtttgtattc 480
ttcttccac tgcccttcat cctcaagtgg ttgtcctact gccaaacaca tactgtcaca 540
cactccttct gtctgcacca agatattatg aagctgtcct gtactgacac cagggtcaat 600
gtggtttatg gactcttcat catcctctca gtcatgggtg tggactctct cttcattggc 660
ttctcatata tcctcâctct gtgggctggt ttggagctgt cctctcggag ggagcactc 720
aaggctttca acacctgcat ctcccacctc tgtgctgttc tggctcttcta tgtaccctc 780
attgggctct cggtgggtgca taggctgggt ggtcccacct ccctcctcca tgtggttatg 840
gctaatacct acttgctgct accacctgta gtcaaccccc ttgtctatgg agccaagacc 900
aaagagatct gttcaagggg cctctgtatg ttctcacaag gtggcaagtg ag 952

<210> 42

<211> 316

<212> PRT

<213> Homo sapiens

<400> 42

Pro Ile Ile Ala Thr Ser Asn Gly Asn Leu Val His Ala Ala Tyr Phe
1 5 10 15

Leu Leu Val Gly Ile Pro Gly Leu Gly Pro Thr Ile His Phe Trp Leu
20 25 30

Ala Phe Pro Leu Cys Phe Met Tyr Ala Leu Ala Thr Leu Gly Asn Leu
35 40 45

Thr Ile Val Leu Ile Ile Arg Val Glu Arg Arg Leu His Glu Pro Met
50 55 60

Tyr Leu Phe Leu Ala Met Leu Ser Thr Ile Asp Leu Val Leu Ser Ser
65 70 75 80

Ile Thr Met Pro Lys Met Ala Ser Leu Phe Leu Met Gly Ile Gln Glu
85 90 95

Ile Glu Phe Asn Ile Cys Leu Ala Gln Met Phe Leu Ile His Ala Leu
100 105 110

Ser Ala Val Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Phe
115 120 125

Val Ala Ile Cys His Pro Leu Arg His Ala Ser Val Leu Thr Gly Cys
130 135 140

Thr Val Ala Lys Ile Gly Leu Ser Ala Leu Thr Arg Gly Phe Val Phe
 145 150 155 160

Phe Phe Pro Leu Pro Phe Ile Leu Lys Trp Leu Ser Tyr Cys Gln Thr
 165 170 175

His Thr Val Thr His Ser Phe Cys Leu His Gln Asp Ile Met Lys Leu
 180 185 190

Ser Cys Thr Asp Thr Arg Val Asn Val Val Tyr Gly Leu Phe Ile Ile
 195 200 205

Leu Ser Val Met Gly Val Asp Ser Leu Phe Ile Gly Phe Ser Tyr Ile
 210 215 220

Leu Ile Leu Trp Ala Val Leu Glu Leu Ser Ser Arg Arg Ala Ala Leu
 225 230 235 240

Lys Ala Phe Asn Thr Cys Ile Ser His Leu Cys Ala Val Leu Val Phe
 245 250 255

Tyr Val Pro Leu Ile Gly Leu Ser Val Val His Arg Leu Gly Gly Pro
 260 265 270

Thr Ser Leu Leu His Val Val Met Ala Asn Thr Tyr Leu Leu Leu Pro
 275 280 285

Pro Val Val Asn Pro Leu Val Tyr Gly Ala Lys Thr Lys Glu Ile Cys
 290 295 300

Ser Arg Val Leu Cys Met Phe Ser Gln Gly Gly Lys
 305 310 315

<210> 43

<211> 945

<212> DNA

<213> Homo sapiens

<400> 43

acgaattctt cttttcttct cactggattt tctggcatgg agcagcaata cccctgggtt 60
 tccatcccct tctcctcaat ctatgccatg gtgcttttgg gcaattgcat gggtctccat 120
 gtgatatgga ctgagccaag cctgcaccag cctatgtttt acttcctgtc catgctggcc 180
 ctcaactgacc tgtgcatggg gctgtccact gtgtacacag tgctggggat cctgtgggtg 240
 atcattcgag agatcagctt ggattcctgc attgccagc cctatttcat ccatggctctg 300
 tccttcatgg agtcctctgt cctcctcact atggccttg accggtacat tgcaatttgc 360
 aatccactac gttattcctc catcctgact aattccagaa ttatcaaaat tgggctcact 420
 ataataggta ggagtttttt ctttattaca ccccccata tctgtctgaa atttttta 480

tactgtcatt tccacatcct ttctcactct ttctgcctgc accaggatct tctccgctta 540
gcctgttcag acatccgatt caatagttac tatgccctga tgctgggttat ttgcatactg 600
ttgttgatg ctatactcat ccttttctcc tacatcctga ttcttaagtc agtcctggca 660
gttgctctc aggaagagag gcataaatta ttccagacct gcatctccca catctgtgct 720
gtccttgtgt tctacatccc tatcattagc ctcacaatgg tgcaccggtt tggcaagcac 780
ctttcccccg tggcccacgt tctcattggc aacatctaca tccttttccc acctttaatg 840
aatcccatca tctacagtgt caagacccaa cagattcata ccagaatgct tagactcttt 900
tctctgaaaa gatattgaga gatattgaga tgtattgcct aaaaa 945

<210> 44
<211> 293
<212> PRT
<213> Homo sapiens

<400> 44
Met Glu Gln Gln Tyr Pro Trp Phe Ser Ile Pro Phe Ser Ser Ile Tyr
1 5 10 15
Ala Met Val Leu Leu Gly Asn Cys Met Val Leu His Val Ile Trp Thr
20 25 30
Glu Pro Ser Leu His Gln Pro Met Phe Tyr Phe Leu Ser Met Leu Ala
35 40 45
Leu Thr Asp Leu Cys Met Gly Leu Ser Thr Val Tyr Thr Val Leu Gly
50 55 60
Ile Leu Trp Trp Ile Ile Arg Glu Ile Ser Leu Asp Ser Cys Ile Ala
65 70 75 80
Gln Ser Tyr Phe Ile His Gly Leu Ser Phe Met Glu Ser Ser Val Leu
85 90 95
Leu Thr Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Asn Pro Leu Arg
100 105 110
Tyr Ser Ser Ile Leu Thr Asn Ser Arg Ile Ile Lys Ile Gly Leu Thr
115 120 125
Ile Ile Gly Arg Ser Phe Phe Phe Ile Thr Pro Pro Ile Ile Cys Leu
130 135 140
Lys Phe Phe Asn Tyr Cys His Phe His Ile Leu Ser His Ser Phe Cys
145 150 155 160
Leu His Gln Asp Leu Leu Arg Leu Ala Cys Ser Asp Ile Arg Phe Asn
165 170 175

Ser Tyr Tyr Ala Leu Met Leu Val Ile Cys Ile Leu Leu Leu Asp Ala
 180 185 190

Ile Leu Ile Leu Phe Ser Tyr Ile Leu Ile Leu Lys Ser Val Leu Ala
 195 200 205

Val Ala Ser Gln Glu Glu Arg His Lys Leu Phe Gln Thr Cys Ile Ser
 210 215 220

His Ile Cys Ala Val Leu Val Phe Tyr Ile Pro Ile Ile Ser Leu Thr
 225 230 235 240

Met Val His Arg Phe Gly Lys His Leu Ser Pro Val Ala His Val Leu
 245 250 255

Ile Gly Asn Ile Tyr Ile Leu Phe Pro Pro Leu Met Asn Pro Ile Ile
 260 265 270

Tyr Ser Val Lys Thr Gln Gln Ile His Thr Arg Met Leu Arg Leu Phe
 275 280 285

Ser Leu Lys Arg Tyr
 290

<210> 45

<211> 1040

<212> DNA

<213> Homo sapiens

<400> 45

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 gccaagttct ctgaggttcc tgaagaatgc ttctctctgt ttacctgat tctcctcatg 120
 ttcttagtat cactgacagg aaatgcactt ataacccttg ccatatgcac cagtccagcc 180
 ctacacaccc ccattgtactt ctttctggcc aacttgtctc tcctggagat tggctacact 240
 tgttctgtca taccgaagat gttgaagaac cttgtaactg aggcccgagg gatctctcgg 300
 gaagggtgtg ccacacagat gtttttcttt atattctttg gtataactga gtgttgcccta 360
 ctggcagcta tggcctttga ccgctacatg gccatatgct cccactcca ctatgcaacc 420
 cgaatgagtc gtgaggtatg tgcccatttg gcaatagttt catggggaat gggatgcata 480
 gtaggggttg gacagaccaa ttttattttc tccttaaact tctgtggacc atgtgagata 540
 gaccacttct tctgtgacct tccacctgtc ctggcacttg cctgtggaga tacatcccaa 600
 aatgaggctg caatcttcgt gacagtagtt ctctgcatat ctagcccatt tttgttgatc 660
 atttattcct atgtcagaat tttgtttgca gtgctggtga tgccttcacc tgaggggcgc 720
 cataaagctc tctccacctg ttctcccat ctactttag tccattgtt ctatggctca 780
 gcatctatta cctacttgag gcccaagtct agccactcac caggaataga taaactcttg 840
 gcccttttct acaccgcggt gacttccatg ctgaaccca tcatctatag cttaaggaac 900
 aaggaagtga aggagcact gagaagaact ctgagtctga agaaacctct ggcaataaat 960

aggtaacaga accttgcaga gctgctggct aatgagaatt tacaatgaat cagatgaaac 1020
 aaataaaaagg atattctaaa 1040

<210> 46
 <211> 321
 <212> PRT
 <213> Homo sapiens

<400> 46

Met Ser Val Asn Cys Ser Leu Trp Gln Glu Asn Lys Leu Ser Val Lys
 1 5 10 15

His Phe Ala Phe Ala Lys Phe Ser Glu Val Pro Glu Glu Cys Phe Leu
 20 25 30

Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn
 35 40 45

Ala Leu Ile Thr Leu Ala Ile Cys Thr Ser Pro Ala Leu His Thr Pro
 50 55 60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr
 65 70 75 80

Cys Ser Val Ile Pro Lys Met Leu Lys Asn Leu Val Thr Glu Ala Arg
 85 90 95

Gly Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Ile Phe
 100 105 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Phe Asp Arg
 115 120 125

Tyr Met Ala Ile Cys Ser Pro Leu His Tyr Ala Thr Arg Met Ser Arg
 130 135 140

Glu Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile
 145 150 155 160

Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly
 165 170 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala
 180 185 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Thr
 195 200 205

Val Val Leu Cys Ile Ser Ser Pro Phe Leu Leu Ile Ile Tyr Ser Tyr
 210 215 220

Val Arg Ile Leu Phe Ala Val Leu Val Met Pro Ser Pro Glu Gly Arg
 225 230 235 240

His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Leu
 245 250 255

Phe Tyr Gly Ser Ala Ser Ile Thr Tyr Leu Arg Pro Lys Ser Ser His
 260 265 270

Ser Pro Gly Ile Asp Lys Leu Leu Ala Leu Phe Tyr Thr Ala Val Thr
 275 280 285

Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys
 290 295 300

Ala Ala Leu Arg Arg Thr Leu Ser Leu Lys Lys Pro Leu Ala Ile Asn
 305 310 315 320

Arg

<210> 47
 <211> 988
 <212> DNA
 <213> Homo sapiens

<400> 47
 atgagtatca actgctctct gtggcaggag aacagcttgt ctgtcaaacg ctttgcattt 60
 gccaaagtct ctgaggtccc tggagaatgc ttctctctat ttacctcat cctcctcatg 120
 ttcttagtat cactgacagg aaatgcactc atagcccttg tcatctgcac caatccatcc 180
 ctacacaacc ccatgtatct ctttctggcc aacttgtctc tcctggagat tggctacact 240
 tgctctgtca taccctaaat gctacaaagc cttgtaagtg aggcccgaga aatctctcgg 300
 gaggggtgtg ccacacagat gtttttcttc acattttttg gtataactga gtgctgtcta 360
 ctggcagcta tggcttatga ccgctgcatg gccatatgct cccacttca ctatccaaca 420
 cgaatgagta gtggggtatg tgcccatttg gcaatagttt catggggaat gggatgtata 480
 gtagggttgg gacaaaccaa ttatttttc tccttgagat tttgtggacc ctgtgagata 540
 gatcacttct tctgtgacct tccacctgtc ctggcacttg cttgtggcga tacatcccaa 600
 aatgaggctg caatttttgt ggcagcagtt ctctgcatat ctagcccat tttgttgatc 660
 atttattcct atgtcagaat tctggttgca gtgctgctga tgccttcacc tgaggggcgc 720
 cataaagctc tctccacctg ttctcccat ctactttag tcaaatgtt ctatggctca 780
 gcatctatta cttacttgag gcccaagtct agccactcac caggaatgga caaactcttg 840
 gcccttttct acacagcggg gacatccatg ctgaacccca tcatctatag ctttaaggaac 900
 aaggaagtaa aggcagcact gagaaaaaca ctgagtctga agaaacctct ggcaataaat 960

aggtaacaga accttcgaga gctgctgg

988

<210> 48

<211> 321

<212> PRT

<213> Homo sapiens

<400> 48

Met Ser Ile Asn Cys Ser Leu Trp Gln Glu Asn Ser Leu Ser Val Lys
1 5 10 15

Arg Phe Ala Phe Ala Lys Phe Ser Glu Val Pro Gly Glu Cys Phe Leu
20 25 30

Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn
35 40 45

Ala Leu Ile Ala Leu Val Ile Cys Thr Asn Pro Ser Leu His Asn Pro
50 55 60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr
65 70 75 80

Cys Ser Val Ile Pro Lys Met Leu Gln Ser Leu Val Ser Glu Ala Arg
85 90 95

Glu Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Thr Phe
100 105 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg
115 120 125

Cys Met Ala Ile Cys Ser Pro Leu His Tyr Pro Thr Arg Met Ser Ser
130 135 140

Gly Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile
145 150 155 160

Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Glu Phe Cys Gly
165 170 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala
180 185 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Ala
195 200 205

210	215	220
Val Arg Ile Leu Ile Ala Val Leu Val Met Pro Ser Arg Glu Gly Arg		
225	230	235 240
His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Leu		
245	250	255
Phe Tyr Gly Ser Thr Ser Ala Thr Tyr Leu Arg Pro Lys Ser Asp His		
260	265	270
Ser Pro Glu Val Asp Lys Leu Leu Ala Leu Phe Tyr Thr Ala Val Thr		
275	280	285
Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys		
290	295	300
Ala Ala Leu Arg Lys Thr Leu Ser Leu Lys Lys Val Leu Ile Met Asn		
305	310	315 320

Arg

<210> 51
 <211> 983
 <212> DNA
 <213> Homo sapiens

<400> 51

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atagaccact tcttctgtga ccttccacct gtccctggcag ttgctgtgg agatacatcc 600
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aataggtaac tgaggatcct gaa 983
  
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<210> 52

<211> 321

<212> PRT

<213> Homo sapiens

<400> 52

Met Ser Ile Asn Cys Ser Leu Trp Gln Glu Asn Ser Leu Ser Val Lys
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Arg Phe Ala Phe Ala Lys Phe Ser Glu Val Pro Gly Glu Cys Phe Leu
20 25 30

Leu Phe Thr Leu Ile Leu Leu Met Phe Leu Val Ser Leu Thr Gly Asn
35 40 45

Ser Leu Ile Ala Leu Ala Ile Cys Thr Ser Pro Ala Leu His Thr Pro
50 55 60

Met Tyr Phe Phe Leu Ala Asn Leu Ser Leu Leu Glu Ile Gly Tyr Thr
65 70 75 80

Cys Ser Val Ile Pro Lys Met Leu Gln Ser Leu Val Ser Glu Ala Arg
85 90 95

Gly Ile Ser Arg Glu Gly Cys Ala Thr Gln Met Phe Phe Phe Ile Phe
100 105 110

Phe Gly Ile Thr Glu Cys Cys Leu Leu Ala Ala Met Ala Phe Asp Arg
115 120 125

Tyr Met Ala Ile Cys Ser Pro Leu His Tyr Ala Thr Arg Met Ser Arg
130 135 140

Gly Val Cys Ala His Leu Ala Ile Val Ser Trp Gly Met Gly Cys Ile
145 150 155 160

Val Gly Leu Gly Gln Thr Asn Phe Ile Phe Ser Leu Asn Phe Cys Gly
165 170 175

Pro Cys Glu Ile Asp His Phe Phe Cys Asp Leu Pro Pro Val Leu Ala
180 185 190

Leu Ala Cys Gly Asp Thr Ser Gln Asn Glu Ala Ala Ile Phe Val Ala
195 200 205

Ala Val Leu Cys Ile Phe Ser Pro Phe Leu Leu Ile Ile Ser Ser Tyr
210 215 220

Val Arg Ile Leu Ile Ala Val Leu Val Met Pro Ser Arg Glu Gly Arg
 225 230 235 240

His Lys Ala Leu Ser Thr Cys Ser Ser His Leu Leu Val Val Thr Leu
 245 250 255

Phe Tyr Gly Ser Thr Ser Ala Thr Tyr Leu Arg Pro Lys Ser Asp His
 260 265 270

Ser Pro Glu Val Asp Lys Leu Leu Ala Leu Phe Tyr Thr Ala Val Thr
 275 280 285

Ser Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys
 290 295 300

Ala Ala Leu Arg Lys Thr Leu Ser Leu Lys Lys Val Leu Ile Met Asn
 305 310 315 320

Arg

<210> 53

<211> 957

<212> DNA

<213> Homo sapiens

<400> 53

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 ggtgaccgtc tttgggaacc tgctcatcat cctggccatt gtctctgacc ctaagcttca 180
 cacaccaatg tatttattcc tctctaacct atccttctct gacatctgct tcacctctac 240
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 tgtgatggca tatgaccgct ttgtggccat ctgccacccc ttgcactata cagtgtcat 420
 gaaccctaag ctctgttccc agctacttct cctggcatgg cttataagca tacttggagc 480
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 cgtttgtgta tatattgtaa caggcatcat gggctttttt cctcttgctg ggatactttt 660
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<210> 54

<211> 312

<212> PRT

<213> Homo sapiens

<400> 54

Met Glu Pro Glu Asn His Thr Gly Ile Pro Glu Phe Tyr Leu Leu Gly
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Leu Ser Glu Asn Pro Glu Ile Gln Ser Val Leu Phe Gly Leu Phe Leu
20 25 30

Ser Leu Tyr Leu Val Thr Val Phe Gly Asn Leu Leu Ile Ile Leu Ala
35 40 45

Ile Val Ser Asp Pro Lys Leu His Thr Pro Met Tyr Leu Phe Leu Ser
50 55 60

Asn Leu Ser Phe Ser Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Lys
65 70 75 80

Met Leu Leu Gly Ile Gln Thr Gln Ser Lys Leu Ile Thr Tyr Ala Gly
85 90 95

Cys Ile Thr Gln Met Tyr Phe Phe Thr Val Phe Gly Leu Leu Asp Asn
100 105 110

Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His
115 120 125

Pro Leu His Tyr Thr Val Leu Met Asn Pro Lys Leu Cys Ser Gln Leu
130 135 140

Leu Leu Leu Ala Trp Leu Ile Ser Ile Leu Gly Ala Leu Pro Glu Ser
145 150 155 160

Leu Thr Ala Leu Arg Leu Ser Phe Cys Ala Val Val Glu Ile Pro His
165 170 175

Tyr Phe Cys Glu Leu Pro Glu Val Leu Lys Leu Ala Cys Ser Asp Thr
180 185 190

Phe Ile Asn Asn Val Val Leu Tyr Ile Val Thr Gly Ile Met Gly Phe
195 200 205

Phe Pro Leu Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Thr Ser
210 215 220

Val Leu Arg Ile Ser Thr Val Gly Gly Lys Tyr Lys Ala Phe Ser Thr

[illegible]

<400> 56

Met Glu Ile Lys Asn Cys Ser Val Val Thr Glu Phe Ile Leu Leu Gly
1 5 10 15

Ile Pro His Thr Glu Gly Phe Glu Thr Leu Leu Phe Val Leu Phe Leu
20 25 30

Pro Phe Tyr Ala Cys Thr Leu Val Gly Asn Val Ser Ile Leu Val Ala
35 40 45

Val Ile Ser Ser Thr Arg Leu His Thr Pro Met Tyr Phe Phe Leu Gly
50 55 60

Asn Leu Ser Val Phe Asp Met Gly Phe Ser Ser Val Thr Cys Pro Lys
65 70 75 80

Met Leu Phe Tyr Leu Met Gly Leu Ser Arg Leu Ile Ser Tyr Gln Asp
85 90 95

Cys Val Ser Gln Leu Phe Phe Phe His Phe Leu Gly Ser Ile Glu Cys
100 105 110

Phe Leu Tyr Thr Val Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His
115 120 125

Pro Leu Arg Tyr Ser Val Ile Met Asn Ser Lys Ile Cys Val Ala Leu
130 135 140

Ala Val Gly Thr Trp Leu Leu Gly Cys Phe His Ser Ser Val Leu Thr
145 150 155 160

Ser Leu Thr Phe Thr Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp His
165 170 175

Phe Phe Cys Asp Ile Pro Ala Ile Leu Pro Leu Ala Ser Ala Asp Thr
180 185 190

Ser Leu Ala Gln Arg Val Ser Phe Thr Asn Val Gly Leu Val Ser Leu
195 200 205

Val Cys Phe Leu Leu Ile Leu Leu Ser Tyr Thr Arg Ile Thr Ile Ser
210 215 220

Ile Leu Ser Ile Gln Ser Thr Glu Gly Arg Gln Arg Ala Phe Ser Thr
225 230 235 240

Cys Ser Ala His Leu Ile Ala Ile Leu Cys Ala Tyr Gly Pro Ile Ile
245 250 255

Thr Ile Tyr Leu Gln Pro Thr Pro Asn Pro Met Leu Gly Thr Val Val
 260 265 270

Gln Ile Leu Met Asn Leu Val Gly Pro Met Leu Asn Pro Leu Ile Tyr
 275 280 285

Thr Leu Arg Asn Lys Glu Val Lys Ile Ala Leu Lys Lys Ile Leu His
 290 295 300

Gly Lys Gly Ser Val Ser Glu Gly
 305 310

<210> 57
 <211> 975
 <212> DNA
 <213> Homo sapiens

<400> 57
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 gactctcttt ggcaacaccg tgatcatcat tctgtctcga ctggacctcc gcctgcacac 180
 actcatgtac tacttccctct gccacctctc ctccctggac ctctgctaca ccgccagcac 240
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 aatggctata gatcgctatg ctgctgtgtg tcgcccactc cactacacaa ccattatgca 420
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 gcagaaaatt attta 975

<210> 58
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 58
 Met Asp Tyr Leu Asn Thr Ser Ser Glu Glu Gly Phe Ile Leu Val Gly
 1 5 10 15

Phe Ser Asp Trp Pro His Leu Glu Pro Thr Leu Phe Ala Phe Ile Ser
20 25 30
Ile Phe Tyr Ser Leu Thr Leu Phe Gly Asn Thr Val Ile Ile Ile Leu
35 40 45
Ser Arg Leu Asp Leu Arg Leu His Thr Leu Met Tyr Tyr Phe Leu Cys
50 55 60
His Leu Ser Phe Leu Asp Leu Cys Tyr Thr Ala Ser Thr Val Pro Gln
65 70 75 80
Leu Leu Val Asn Leu Ser Gly Leu Asp Arg Thr Ile Ser Phe Gly Arg
85 90 95
Cys Val Ala Gln Leu Cys Ile Val Leu Ser Leu Gly Gly Thr Glu Cys
100 105 110
Val Leu Leu Val Thr Met Ala Ile Asp Arg Tyr Ala Ala Val Cys Arg
115 120 125
Pro Leu His Tyr Thr Thr Ile Met His Pro Val Leu Cys Arg Ala Leu
130 135 140
Val Val Phe Ser Trp Val Gly Gly Leu Val Asn Ser Leu Ile Gln Thr
145 150 155 160
Ser Leu Val Met Ala Met Pro Leu Cys Gly His Gln Leu Asn His Phe
165 170 175
Phe Cys Glu Leu Pro Val Leu Leu Lys Met Ala Cys Glu Asp Thr Gly
180 185 190
Gly Thr Glu Val Asn Leu Phe Val Ala Arg Val Ile Ile Leu Val Cys
195 200 205
Pro Leu Leu Leu Ile Leu Gly Ser Tyr Ala His Ile Ala Arg Ala Val
210 215 220
Leu Asn Ile Arg Ser Val Ala Gly Arg Arg Lys Ala Phe Gly Thr Cys
225 230 235 240
Ala Ser His Leu Ile Val Val Ala Met Phe Tyr Gly Ser Ala Ile Ser
245 250 255
Thr Tyr Leu Gln Pro Val His Arg Tyr Ser Glu Lys Glu Gly Lys Phe
260 265 270

Leu Ala Leu Phe Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Leu Ile
 275 280 285

Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Trp Lys Val Leu
 290 295 300

Gly Arg Gly Thr Asp Ser Arg
 305 310

<210> 59
 <211> 961
 <212> DNA
 <213> Homo sapiens

<400> 59
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 a 961

<210> 60
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 60
 Met Glu Asn Leu Asn Thr Ser Ser Glu Glu Gly Phe Ile Leu Val Val
 1 5 10 15

Phe Ser Asp Trp Pro His Leu Glu Pro Ile Leu Phe Ala Phe Ile Ser
 20 25 30

Ile Phe Tyr Ser Leu Thr Leu Phe Gly Asn Thr Val Ile Ile Ile Leu

35	40	45
Ser Gln Leu Asp Leu Cys Leu His Thr Pro Met Tyr Tyr Phe Leu Cys		
50	55	60
His Leu Ser Phe Leu Asp Leu Cys Tyr Thr Ala Ser Thr Val Pro Gln		
65	70	75
Leu Leu Val Asn Leu Ser Gly Leu Asp Arg Thr Ile Ser Phe Gly Arg		
	85	90
Cys Val Ala Gln Leu Cys Ile Val Leu Ser Leu Gly Gly Thr Glu Cys		
	100	105
Val Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Ala Ala Val Cys Arg		
	115	120
Pro Leu His Tyr Thr Thr Ile Met His Pro Val Leu Cys Arg Ala Leu		
	130	135
Val Val Phe Ser Trp Val Gly Gly Leu Val Asn Ser Leu Ile Gln Thr		
145	150	155
Ser Leu Val Met Ala Met Pro Leu Cys Gly His Gln Leu Asn His Phe		
	165	170
Phe Cys Glu Leu Pro Val Leu Leu Lys Met Ala Cys Glu Asp Thr Gly		
	180	185
Gly Thr Glu Val Asn Leu Phe Val Ala Arg Val Ile Ile Leu Val Cys		
	195	200
Pro Leu Leu Leu Ile Leu Gly Ser Tyr Ala His Ile Ala Arg Ala Val		
	210	215
Leu Asn Ile Arg Ser Met Ala Gly Arg Arg Lys Ala Phe Gly Thr Cys		
225	230	235
Ala Ser His Leu Ile Val Val Ala Met Phe Tyr Gly Ser Gly Ile Ser		
	245	250
Thr Tyr Leu Gln Pro Val His Arg Tyr Ser Glu Lys Glu Gly Lys Phe		
	260	265
Leu Ala Leu Phe Tyr Thr Ile Ile Thr Pro Met Leu Asn Pro Leu Ile		
	275	280
Tyr Thr Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Trp Lys Val Leu		

290

295

300

Gly Arg Ser Thr Asp Ser Ala
305 310

<210> 61

<211> 1013

<212> DNA

<213> Homo sapiens

<400> 61

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<210> 62

<211> 323

<212> PRT

<213> Homo sapiens

<400> 62

Met Thr Pro Arg Asn Met Thr Thr Val Ser Gly Phe Leu Leu Met Gly
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Phe Ser Asp Asn His Glu Leu Gln Ile Leu Gln Ala Leu Leu Phe Leu
20 25 30

Val Thr Tyr Leu Leu Asp Ser Ala Gly Asn Phe Ile Ile Ile Thr Ile
35 40 45

Thr Thr Ile Asp Lys Gln Leu Gln Ser Pro Met Tyr Tyr Phe Leu Lys
50 55 60

His Leu Ser Ile Met Asp Phe Ser Ser Leu Ser Val Thr Val Pro Gln
 65 70 75 80

Tyr Val Asp Ser Ser Leu Ala Arg Ser Gly Tyr Ile Ser Tyr Gly Gln
 85 90 95

Cys Met Leu Gln Val Phe Phe Phe Thr Gly Leu Ala Trp Ser Glu Val
 100 105 110

Ala Ile Leu Thr Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys Leu
 115 120 125

Pro Leu His Tyr Glu Val Ile Met Ser Pro Arg Lys Cys Thr Trp Ala
 130 135 140

Val Ala Ala Val Trp Leu Ser Gly Gly Ile Ser Gly Thr Leu Phe Thr
 145 150 155 160

Ala Ser Thr Leu Ser Ile Arg Phe Cys Gly His Lys Ile Ile His Gln
 165 170 175

Phe Phe Cys Asp Ile Pro Gln Leu Leu Lys Leu Ser Cys Ser Asn Asp
 180 185 190

Asp Phe Gly Leu Leu Lys Val Ser Thr Phe Ile Ala Val Met Gly Phe
 195 200 205

Ala Cys Phe Val Gly Ile Ala Phe Ser Tyr Cys Gln Ile Phe Ser Thr
 210 215 220

Val Leu Arg Met Pro Ser Ala Glu Gly Arg Ser Lys Val Phe Ser Thr
 225 230 235 240

Cys Leu Pro His Leu Phe Val Val Ser Phe Phe Leu Ser Thr Gly Ile
 245 250 255

Cys Ala Tyr Leu Lys Pro Ser Ser Asp Ser Pro Thr Ala Leu Asp Leu
 260 265 270

Met Leu Ser Ile Phe Tyr Thr Val Leu Pro Pro Thr Leu Asn Pro Val
 275 280 285

Ile Tyr Ser Leu Arg Asn Glu Ser Leu Lys Arg Ala Val Lys Lys Leu
 290 295 300

Leu Leu Ser Glu Glu Phe Ile Gly Lys Asn Tyr Val Cys Ser Val Phe
 305 310 315 320

Ser Ala Cys

<210> 63
<211> 947
<212> DNA
<213> Homo sapiens

<400> 63
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ggggaacctg ggcagtatca tctgaccc cctcagctca cacctgcaca ccccatgta 180
cttcttctc agcagtctgt ccttcattga cctctgcca tctactgtca ttaccccaaa 240
aatgctgggtg aattttgtga gggagaagaa tgaaatctcc taccctgagt gcataactca 300
actttacttc tttctccttt ttgctatttc agaagtgtac atgctggctg caatggcata 360
tgatcgtat gttgccatct gtagccctt actttatagt agcattatgt cccaacataa 420
gtgcctttca attgttttag gagtttcat tataggcata gtttgtgcat cagctcatgt 480
agggtgtatg tttaggattg atttctgcag atatgatgtg atcaaccatt atttctgtga 540
ccttatttct atccttaagc tctcgtgctc tgatgctttt gttaatgagt tgatgatttt 600
aatttttagt ggagttaata ttattgcccc aacgctgacc atcctcagtt cttatgtttt 660
catcattatg agcatcttac gcattaaatc cactgagggc agatctaaaa ccttcagcac 720
ctgcagctcc cacatctcag ctgttgctgt cttttatggg tctgctgcat ttatgtatct 780
gaacccatct tcttccaatt ctatggatga aggaaaagtg tcttctatat ttacacccat 840
tattgttccc atgctcaacc cctgatcta cagtctgagg aataaggatg tcaatattgc 900
tttgaagaaa atgatacaaa gaagataatt tttctgatga atataat 947

<210> 64
<211> 308
<212> PRT
<213> Homo sapiens

<400> 64
Met Glu Gln Gly Asn His Ser Thr Val Lys Lys Phe Phe Leu Ser Gly
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Leu Thr Glu Gln Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
20 25 30
Gly Ile Tyr Leu Leu Thr Val Leu Gly Asn Leu Gly Met Ile Ile Leu
35 40 45
Ile Leu Leu Ser Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60
Ser Leu Ser Phe Ile Asp Leu Cys Gln Ser Thr Val Ile Thr Pro Lys

65	70	75	80
Met Leu Val Asn Phe Val Arg Glu Lys Asn Glu Ile Ser Tyr Pro Glu			
85	90	95	
Cys Ile Thr Gln Leu Tyr Phe Phe Leu Leu Phe Ala Ile Ser Glu Cys			
100	105	110	
Tyr Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser			
115	120	125	
Pro Leu Leu Tyr Ser Ser Ile Met Ser Gln His Lys Cys Leu Ser Ile			
130	135	140	
Val Leu Gly Val Tyr Ile Ile Gly Ile Val Cys Ala Ser Ala His Val			
145	150	155	160
Gly Cys Met Phe Arg Ile Asp Phe Cys Arg Tyr Asp Val Ile Asn His			
165	170	175	
Tyr Phe Cys Asp Leu Ile Ser Ile Leu Lys Leu Ser Cys Ser Asp Ala			
180	185	190	
Phe Val Asn Glu Leu Met Ile Leu Ile Phe Ser Gly Val Asn Ile Ile			
195	200	205	
Ala Pro Thr Leu Thr Ile Leu Ser Ser Tyr Val Phe Ile Ile Met Ser			
210	215	220	
Ile Leu Arg Ile Lys Ser Thr Glu Gly Arg Ser Lys Thr Phe Ser Thr			
225	230	235	240
Cys Ser Ser His Ile Ser Ala Val Ala Val Phe Tyr Gly Ser Ala Ala			
245	250	255	
Phe Met Tyr Leu Asn Pro Ser Ser Ser Asn Ser Met Asp Glu Gly Lys			
260	265	270	
Val Ser Ser Ile Phe Tyr Thr Ile Ile Val Pro Met Leu Asn Pro Leu			
275	280	285	
Ile Tyr Ser Leu Arg Asn Lys Asp Val Asn Ile Ala Leu Lys Lys Met			
290	295	300	
Ile Gln Arg Arg			
305			

<210> 65
 <211> 942
 <212> DNA
 <213> Homo sapiens

<400> 65
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 tgatggggaa cttgggcttg attgttctga ttgtgttgaa tcctcacctg cacaccccca 180
 tgtactactt tctcttcaac ctttccttta cagatctctg ctactcctct gccataacct 240
 ccagaatgct ggtgggtttt gtgaagcaga atatcatctc tcatgcagag tgcttgactc 300
 agctcttttt ctttgccttc tttgttattg atgaatgcta cattttgaca gcaatggctt 360
 atgacagata tgctgccatt tgtaagcccc tgctttacca ggtcaccatg tctcatcagg 420
 tctgcctatt gatgactatg ggtgtgtatg tgatgggctt tgctggtgcc ttgtcccaca 480
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 tcattgttgt tgggtgtcaat ataacagtgc ccagcctgac tctctttgtt tcttatacct 660
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 ttaagccttc tagtgcattc gtggatgaag ataaagtatc tactatcttt tataaccattc 840
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 tgaaaaaaac tttgaagaaa aagataactca cctaaataga at 942

<210> 66
 <211> 309
 <212> PRT
 <213> Homo sapiens

<400> 66
 Met Ala Leu Ala Asn Val Ser Ser Val Lys Glu Phe Ile Leu Leu Gly
 1 5 10 15
 Leu Thr Gln Gln Pro Glu Leu Gln Leu Pro Leu Phe Phe Leu Phe Leu
 20 25 30
 Gly Ile Tyr Val Val Ser Val Met Gly Asn Leu Gly Leu Ile Val Leu
 35 40 45
 Ile Val Leu Asn Pro His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe
 50 55 60
 Asn Leu Ser Phe Thr Asp Leu Cys Tyr Ser Ser Ala Ile Thr Pro Arg
 65 70 75 80
 Met Leu Val Gly Phe Val Lys Gln Asn Ile Ile Ser His Ala Glu Cys
 85 90 95

Leu Thr Gln Leu Phe Phe Phe Ala Phe Phe Val Ile Asp Glu Cys Tyr
 100 105 110

Ile Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Lys Pro
 115 120 125

Leu Leu Tyr Gln Val Thr Met Ser His Gln Val Cys Leu Leu Met Thr
 130 135 140

Met Gly Val Tyr Val Met Gly Phe Ala Gly Ala Leu Ser His Ile Val
 145 150 155 160

Cys Met Leu Arg Leu Thr Phe Cys Asp Gly Asn Ile Ile Asn Asn Tyr
 165 170 175

Val Cys Asp Val His Pro Leu Leu Lys Leu Ser Cys Ser Ser Thr Ser
 180 185 190

Ile Asn Glu Leu Val Leu Phe Ile Val Val Gly Val Asn Ile Thr Val
 195 200 205

Pro Ser Leu Thr Leu Phe Val Ser Tyr Thr Leu Ile Leu Ser Asn Ile
 210 215 220

Leu Ser Ile His Ser Gly Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys
 225 230 235 240

Gly Ser His Val Ile Ala Val Ser Phe Phe Phe Gly Ala Ala Ala Phe
 245 250 255

Met Tyr Leu Lys Pro Ser Ser Ala Ser Val Asp Glu Asp Lys Val Ser
 260 265 270

Thr Ile Phe Tyr Thr Ile Leu Gly Pro Met Leu Asn Pro Phe Ile Tyr
 275 280 285

Ser Ile Arg Asn Lys Asp Val His Ile Ala Leu Lys Lys Thr Leu Lys
 290 295 300

Lys Lys Ile Leu Thr
 305

<210> 67

<211> 934

<212> DNA

<213> Homo sapiens

<400> 67

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gttggggaac ctgggcttga ttgttctgat tgtgttgaat cctcacctgc acacccccat 180
gtactacttt ctcttcaacc ttctcttcat agatctctgc tactcctctg tcataacccc 240
tagaatgttg gtgggttttg tgaagcagaa catcatctct catgctgagt gcttgactca 300
gctttttttc ttgaccttct ttgttattga tgaatgctac attttgacag caatggctta 360
tgacagatat gctgccattht gtaagcccct gctttaccag gtcaccatgt ctcatcaggt 420
ctgcctattg atgactatgg gtgtgtatgt gatgggcttt gcagggtgcct tgtccacat 480
agtttgcatt ctgagactca ccttctgtga tggtaacatc attaatcact atgtttgtga 540
tgtacttctt ctctttaaac tctcctgcac aagtacctcc atcaatgaga tggtagtttt 600
tattgttgtg ggtgtcaatg tgatagtgc cagcctgact ctctttgttt cttatacctt 660
aatcctttcc aacatcctca gcatccattc tgcagaaggt agatcaaaag ccttcagtac 720
ctgtggctcc catgtgatgg ctgtttcttt tttctttgga gctgcagcct tcatgtatct 780
taagccttct agtgcattct tggatgaaga gaaattatct accatctttt ataccatttt 840
gggtccaatg ctgaatcctt tcatctacag tataaggaat aaggatgtcc atcttgact 900
gagaaaaaca ttgatgaaac tgaggttttc ctaa 934
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<210> 68

<211> 309

<212> PRT

<213> Homo sapiens

<400> 68

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Met Ala Leu Arg Asn Ala Ser Ser Val Lys Glu Phe Ile Leu Leu Gly
  1             5             10             15

Leu Thr Gln Gln Pro Gly Leu Gln Leu Pro Leu Phe Phe Leu Phe Leu
      20             25             30

Gly Ile Tyr Val Val Ser Met Leu Gly Asn Leu Gly Leu Ile Val Leu
      35             40             45

Ile Val Leu Asn Pro His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe
      50             55             60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Arg
      65             70             75             80

Met Leu Val Gly Phe Val Lys Gln Asn Ile Ile Ser His Ala Glu Cys
      85             90             95

Leu Thr Gln Leu Phe Phe Phe Ala Phe Phe Val Ile Asp Glu Cys Tyr
      100            105            110

Ile Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Lys Pro
      115            120            125
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Leu Leu Tyr Gln Val Thr Met Ser His Gln Val Cys Leu Leu Met Thr
 130 135 140

Met Gly Val Tyr Val Met Gly Phe Ala Gly Ala Leu Ser His Ile Val
 145 150 155 160

Cys Met Leu Arg Leu Thr Phe Cys Asp Gly Asn Ile Ile Asn His Tyr
 165 170 175

Val Cys Asp Val Leu Pro Leu Leu Lys Leu Ser Cys Thr Ser Thr Ser
 180 185 190

Ile Asn Glu Met Val Val Phe Ile Val Val Gly Val Asn Val Ile Val
 195 200 205

Pro Ser Leu Thr Leu Phe Val Ser Tyr Thr Leu Ile Leu Ser Asn Ile
 210 215 220

Leu Ser Ile His Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys
 225 230 235 240

Gly Ser His Val Met Ala Val Ser Phe Phe Phe Gly Ala Ala Ala Phe
 245 250 255

Met Tyr Leu Lys Pro Ser Ser Ala Ser Val Asp Glu Glu Lys Leu Ser
 260 265 270

Thr Ile Phe Tyr Thr Ile Leu Gly Pro Met Leu Asn Pro Phe Ile Tyr
 275 280 285

Ser Ile Arg Asn Lys Asp Val His Leu Ala Leu Arg Lys Thr Leu Met
 290 295 300

Lys Leu Arg Phe Ser
 305

<210> 69

<211> 940

<212> DNA

<213> Homo sapiens

<400> 69

aatggcttta ggaaatgact cttcagtga agaatttatc ctgcttggtc tgacacagca 60
 gccagagctc caactgctc tcttcttctt cttcttgga gtctatat tctccgtggt 120
 ggggaacctg ggcttgattg ttctgattgt gttgaatcct cacctgcaa cccctatgta 180
 ctactttctc ttttaacctt cctttacaga tctctgtac tcttctgtca taacccccaa 240

aatgctggtg agttttgtga agcagaatat cattttctcat gctgagtgca tgactcaact 300
ctttttcttc tgcttctttg ttattgatga atgctacatt ttgacagcaa tggcttatga 360
cagatatgct gccatctgta agcccctgct ttaccaggtc accatgtccc atcggttctg 420
cctcttgatg acagttgggg tgtatgttat ggggtttgtg gaagctatgg cgcatactgc 480
cagtatggta cacctgatct tctgtgatag caacatcatc aatcactaca tgtgtgaaat 540
aaatgctctt ctaaagctct cctgcacaag cacttccatc aatgagctgg tggtttacat 600
tgttgtaggt tttaatgtaa tagtgccac tctgactatc tttattactt acacgttgat 660
ccttttcaac atcctcagca tccattctgc agaaggtagg tcaaaagcct tcagcacctg 720
tggctcccat atgatagctg tttctctttt ctttggagct gcagcattca tgtatcttaa 780
gccttctagt gcatcagagg atgaagataa agtatctacc attttttata ccattatggg 840
cccaatgttg aatcctttca tctacagtat aaggaataag gatgtccata tcgcccttaa 900
aaaaactttg aagagaagca tttttattta agtagaatct 940

<210> 70

<211> 309

<212> PRT

<213> Homo sapiens

<400> 70

Met Ala Leu Gly Asn Asp Ser Ser Val Lys Glu Phe Ile Leu Leu Gly
1 5 10 15

Leu Thr Gln Gln Pro Glu Leu Gln Leu Pro Leu Phe Phe Phe Phe Leu
20 25 30

Gly Val Tyr Ile Phe Ser Val Val Gly Asn Leu Gly Leu Ile Val Leu
35 40 45

Ile Val Leu Asn Pro His Leu Gln Thr Pro Met Tyr Tyr Phe Leu Phe
50 55 60

Asn Leu Ser Phe Thr Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys
65 70 75 80

Met Leu Val Ser Phe Val Lys Gln Asn Ile Ile Ser His Ala Glu Cys
85 90 95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Ile Asp Glu Cys Tyr
100 105 110

Ile Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Lys Pro
115 120 125

Leu Leu Tyr Gln Val Thr Met Ser His Arg Val Cys Leu Leu Met Thr
130 135 140

Val Gly Val Tyr Val Met Gly Phe Val Glu Ala Met Ala His Thr Ala

145 150 155 160
 Ser Met Val His Leu Ile Phe Cys Asp Ser Asn Ile Ile Asn His Tyr
 165 170 175
 Met Cys Glu Ile Asn Ala Leu Leu Lys Leu Ser Cys Thr Ser Thr Ser
 180 185 190
 Ile Asn Glu Leu Val Val Tyr Ile Val Val Gly Phe Asn Val Ile Val
 195 200 205
 Pro Thr Leu Thr Ile Phe Ile Thr Tyr Thr Leu Ile Leu Phe Asn Ile
 210 215 220
 Leu Ser Ile His Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys
 225 230 235 240
 Gly Ser His Met Ile Ala Val Ser Leu Phe Phe Gly Ala Ala Ala Phe
 245 250 255
 Met Tyr Leu Lys Pro Ser Ser Ala Ser Glu Asp Glu Asp Lys Val Ser
 260 265 270
 Thr Ile Phe Tyr Thr Ile Met Gly Pro Met Leu Asn Pro Phe Ile Tyr
 275 280 285
 Ser Ile Arg Asn Lys Asp Val His Ile Ala Leu Lys Lys Thr Leu Lys
 290 295 300
 Arg Ser Ile Phe Ile
 305

<210> 71

<211> 1010

<212> DNA

<213> Homo sapiens

<400> 71

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 ggggaacctc atcatcatca tcctcataat actggacttc catctccaca caccatata 180
 cttgtttctc agcaacttgt cattctctga tctctgtttt tcctctgtca caatgccc 240
 gttgctgcag aacatgcaaa gccaggacac aaccatctcc tatgtaggtt gtctgacaca 300
 aatgtacttt ccaaagtgtt ttgcaaacct agagaacttt cttcttatgt tcatggccta 360
 tgaccgctat gtggccatat gttaccctct tcgttatacc agcatcatga gtccattct 420
 ctgtgtttgt atggtgttta tgtcctggtt acttaccatg ctgaattcca cattgcacac 480
 tgtacttatt gttaaattat cattctgtga ggacaatgtg atccccact tttctgtga 540

catatctgcc gttctcaagt tggcctgctc tgacatttat attaatgagc taacgatatt 600
tatcacggga gcattcatta ttgtcatccc attcttactc attgttgtgt cctatgtaca 660
aattgtctgc tccattctaa agttttcatc tacacgggga atagccaaga tcttttccac 720
ctgtggctcc cacctgtctg tggctcact gttctatggg acaattattg gtctctactt 780
atgccccatca actaataact ctactgtgaa ggacactgcc atggctatga tgtacacagt 840
ggtgactccc atgtgaatc cttcatcta cagcctgagg aacaaagata tgaaagaggc 900
cctgattaga gtcctttgca agaaggaaat atctttataa tggcaatact tgcatttaga 960
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<210> 72

<211> 312

<212> PRT

<213> Homo sapiens

<400> 72

Met Ile Lys Asn Asn Gln Thr Val Ile Ser Gln Phe Leu Leu Leu Gly
1 5 10 15

Leu Pro Ile Pro Pro Glu His Gln His Leu Phe Tyr Ala Leu Phe Leu
20 25 30

Ala Met Tyr Leu Thr Thr Ala Leu Gly Asn Leu Ile Ile Ile Ile Leu
35 40 45

Ile Ile Leu Asp Phe His Leu His Thr Pro Ile Tyr Leu Phe Leu Ser
50 55 60

Asn Leu Ser Phe Ser Asp Leu Cys Phe Ser Ser Val Thr Met Pro Lys
65 70 75 80

Leu Leu Gln Asn Met Gln Ser Gln Asp Thr Thr Ile Ser Tyr Val Gly
85 90 95

Cys Leu Thr Gln Met Tyr Phe Pro Asn Val Phe Ala Asn Leu Glu Asn
100 105 110

Phe Leu Leu Met Phe Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Tyr
115 120 125

Pro Leu Arg Tyr Thr Ser Ile Met Ser Pro Ile Leu Cys Val Cys Met
130 135 140

Val Phe Met Ser Trp Leu Leu Thr Met Leu Asn Ser Thr Leu His Thr
145 150 155 160

Val Leu Ile Val Lys Leu Ser Phe Cys Glu Asp Asn Val Ile Pro His
165 170 175

Phe Phe Cys Asp Ile Ser Ala Val Leu Lys Leu Ala Cys Ser Asp Ile
 180 185 190

Tyr Ile Asn Glu Leu Thr Ile Phe Ile Thr Gly Ala Phe Ile Ile Val
 195 200 205

Ile Pro Phe Leu Leu Ile Val Val Ser Tyr Val Gln Ile Val Cys Ser
 210 215 220

Ile Leu Lys Phe Ser Ser Thr Arg Gly Ile Ala Lys Ile Phe Ser Thr
 225 230 235 240

Cys Gly Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Thr Ile Ile
 245 250 255

Gly Leu Tyr Leu Cys Pro Ser Thr Asn Asn Ser Thr Val Lys Asp Thr
 260 265 270

Ala Met Ala Met Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro Phe
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Met Lys Glu Ala Leu Ile Arg Val
 290 295 300

Leu Cys Lys Lys Glu Ile Ser Leu
 305 310

<210> 73
 <211> 941
 <212> DNA
 <213> Homo sapiens

<400> 73
 aatggactgg gaaaattgct cctcattaac tgattttttt ctcttgggaa ttaccaataa 60
 cccagagatg aaagtgaccc tatttgctgt attcttggct gtttatatca ttaatttctc 120
 agcaaattctt ggaatgatag ttttaatcag aatggattac caacttcaca caccaatgta 180
 tttcttctctc agtcatctgt ctttctgtga tctctgctat tctactgcaa ctgggcccac 240
 gatgctggta gatctacttg ccaagaacaa gtcaataccc ttctatggct gtgctctgca 300
 attcttggtc ttctgtatct ttgcagattc tgagtgtcta ctgctgtcag tgatggcctt 360
 tgatcggtac aaggccatca tcaaccccct gctctataca gtcaacatgt ctacgagagt 420
 gtgctatcta ctcttgactg gggtttatct ggtgggaata gcagatgctt tgatacatat 480
 gacactggcc ttccgcctat gcttctgtgg gtctaagag attaatcatt tcttctgtga 540
 tatccctcct ctcttattac tctctcgtc agatacacag gtcaatgagt tagtgttatt 600
 caccgtcttt ggttttattg aactgagtac catttcagga gttttcattt cttattgtta 660
 tatcatccta tcagtcttgg agatacactc tgctgagggg aggttcaaag ctctctctac 720
 atgcacttcc cacttatctg cggttgcaat tttccagga actctgctct ttatgtattt 780

ccggccaagt tcttcctatt ctctagatca agataaaatg acctcattgt ttacaccct 840
 tgtggttccc atgttgaacc ccctgattta tagcctgagg aacaaggatg tgaaagaggc 900
 cctgaaaaaa ctgaaaaata aaattttatt ttaaggaaat a 941

<210> 74
 <211> 310
 <212> PRT
 <213> Homo sapiens

<400> 74
 Met Asp Trp Glu Asn Cys Ser Ser Leu Thr Asp Phe Phe Leu Leu Gly
 1 5 10 15
 Ile Thr Asn Asn Pro Glu Met Lys Val Thr Leu Phe Ala Val Phe Leu
 20 25 30
 Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Val Leu
 35 40 45
 Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60
 His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys
 65 70 75 80
 Met Leu Val Asp Leu Leu Ala Lys Asn Lys Ser Ile Pro Phe Tyr Gly
 85 90 95
 Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys
 100 105 110
 Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn
 115 120 125
 Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu
 130 135 140
 Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met
 145 150 155 160
 Thr Leu Ala Phe Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His
 165 170 175
 Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Leu Ser Arg Ser Asp Thr
 180 185 190
 Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu

195	200	205
Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser		
210	215	220
Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr		
225	230	240
Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu		
245	250	255
Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys		
260	265	270
Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu		
290	295	300
Lys Asn Lys Ile Leu Phe		
305	310	

<210> 75
 <211> 941
 <212> DNA
 <213> Homo sapiens

<400> 75

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cccagagatg	aaagtgacc	tatttgctgt	attcttggct	gtttatatca	ttaatcttc	120
agcaaattctt	ggaatgatag	ctttaatcag	aatggattac	caacttcaca	caccaatgta	180
tttcttcttc	agtcattctgt	ctttctgtga	tctctgctat	tctactgcaa	ctgggccc	240
gatgctggta	gatctacttg	ccaagaacaa	gtcaataccc	ttctatggct	gtgctctgca	300
attcttggtc	ttctgtatct	ttgcagattc	tgagtgtcta	ctgctgtcag	tgatggcctt	360
tgatcggtac	aaggccatca	tcaaccccct	gctctataca	gtcaacatgt	ctagcagagt	420
gtgctatcta	ctcttgactg	gggtttatct	gggtgggaata	gcagatgctt	tgatacatat	480
gacactggcc	ctccgcctat	gcttctgtgg	gtctaattgag	attaatcatt	tcttctgtga	540
tatccctcct	ctcttattac	tctcttgctc	agatacacag	gtcaatgagt	tagtggttatt	600
caccgtcttt	ggttttattg	aactgagtac	catttcagga	gttttcattt	cttattgtta	660
tatcactcta	tcagtcttgg	agatacactc	tgctgagggg	aggttcaaag	ctctctctac	720
atgtacttcc	cacttatctg	cggttgcaat	tttccagga	actctgctct	ttatgtattt	780
cgggccaagt	tcttcctatt	ctctagatca	agataaaatg	acctcattgt	tttacaccct	840
tgtggttccc	atgttgaacc	ccctgattta	tagcctgagg	aacaaggatg	tgaaagaggc	900
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<210> 76

<211> 310

<212> PRT

<213> Homo sapiens

<400> 76

Met Asp Trp Glu Asn Cys Ser Ser Leu Thr Asp Phe Phe Leu Leu Gly
1 5 10 15

Ile Thr Asn Asn Pro Glu Met Lys Val Thr Leu Phe Ala Val Phe Leu
20 25 30

Ala Val Tyr Ile Ile Asn Phe Ser Ala Asn Leu Gly Met Ile Ala Leu
35 40 45

Ile Arg Met Asp Tyr Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60

His Leu Ser Phe Cys Asp Leu Cys Tyr Ser Thr Ala Thr Gly Pro Lys
65 70 75 80

Met Leu Val Asp Leu Leu Ala Lys Asn Lys Ser Ile Pro Phe Tyr Gly
85 90 95

Cys Ala Leu Gln Phe Leu Val Phe Cys Ile Phe Ala Asp Ser Glu Cys
100 105 110

Leu Leu Leu Ser Val Met Ala Phe Asp Arg Tyr Lys Ala Ile Ile Asn
115 120 125

Pro Leu Leu Tyr Thr Val Asn Met Ser Ser Arg Val Cys Tyr Leu Leu
130 135 140

Leu Thr Gly Val Tyr Leu Val Gly Ile Ala Asp Ala Leu Ile His Met
145 150 155 160

Thr Leu Ala Leu Arg Leu Cys Phe Cys Gly Ser Asn Glu Ile Asn His
165 170 175

Phe Phe Cys Asp Ile Pro Pro Leu Leu Leu Leu Ser Cys Ser Asp Thr
180 185 190

Gln Val Asn Glu Leu Val Leu Phe Thr Val Phe Gly Phe Ile Glu Leu
195 200 205

Ser Thr Ile Ser Gly Val Phe Ile Ser Tyr Cys Tyr Ile Ile Leu Ser
210 215 220

Val Leu Glu Ile His Ser Ala Glu Gly Arg Phe Lys Ala Leu Ser Thr
 225 230 235 240

Cys Thr Ser His Leu Ser Ala Val Ala Ile Phe Gln Gly Thr Leu Leu
 245 250 255

Phe Met Tyr Phe Arg Pro Ser Ser Ser Tyr Ser Leu Asp Gln Asp Lys
 260 265 270

Met Thr Ser Leu Phe Tyr Thr Leu Val Val Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu Ala Leu Lys Lys Leu
 290 295 300

Lys Asn Lys Ile Leu Phe
 305 310

<210> 77
 <211> 961
 <212> DNA
 <213> Homo sapiens

<400> 77
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 acaccagaac tgcagctgcc tctcttcttc ctcttcctcg gaatctatgc agtaacgatg 120
 gtagggaacc tgggcatgat cacactgatt ctgctcagct cccacctgca cacacccatg 180
 tacttcttcc tcagcagtct gtccttcatt gacctctgcc attcaactgt cattaccccc 240
 aaaatgctgg tgaactttgt gactgtgaag aacatcatct cctaccctga atgtatgact 300
 cagctctatt tctttctggt ttttggtata tcagaatgtc acatgctggc agctatggca 360
 tatgaccgat acgttgccat ctgtaacccc ttgctatata atgctatgat gtcctatcaa 420
 gtctgcacct ggatgatatt tggggtgtat agcatgggtt ttattgggtgc cacagctcac 480
 acagtgtgca tgctaagagt ccatttctgt aagggtgatg taataaatca ttacttctgt 540
 gatcttttcc cgttattgga gctttcttgc tcccctactt ttatcaatga ggtagttgtt 600
 ctatgtttta gtgctttcaa tctccttttc ccaacactga gtatcctgag ctcttacatc 660
 ttcattcattg ccagcatcct ccgtattaaa tccactgaag gcagggtccaa agccttcagc 720
 acctgcagct cacacatata agctgttgct gtgttctttg ggtctgctgc atttatgtac 780
 ctacagccat catcagtcag ctccatggac caagggaag tctcctctgt attttatacc 840
 attgttgtgc ccatgctaaa ccccttgatc tacagcctga gaaataagga tgtcaagggtc 900
 gcactaacia aattttatga aaaaagtttc tcatgaaaat atgggatctg caaccctata 960
 g 961

<210> 78
 <211> 310
 <212> PRT
 <213> Homo sapiens

<400> 78

Met Ile Ala Gly Asn Tyr Ser Met Val Thr Glu Phe Ile Leu Ala Gly
1 5 10 15

Leu Thr Ser Thr Pro Glu Leu Gln Leu Pro Leu Phe Phe Leu Phe Leu
20 25 30

Gly Ile Tyr Ala Val Thr Met Val Gly Asn Leu Gly Met Ile Thr Leu
35 40 45

Ile Leu Leu Ser Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60

Ser Leu Ser Phe Ile Asp Leu Cys His Ser Thr Val Ile Thr Pro Lys
65 70 75 80

Met Leu Val Asn Phe Val Thr Val Lys Asn Ile Ile Ser Tyr Pro Glu
85 90 95

Cys Met Thr Gln Leu Tyr Phe Phe Leu Val Phe Val Ile Ser Glu Cys
100 105 110

His Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Asn Ala Met Met Ser Tyr Gln Val Cys Thr Trp Met
130 135 140

Ile Phe Gly Val Tyr Ser Met Gly Phe Ile Gly Ala Thr Ala His Thr
145 150 155 160

Val Cys Met Leu Arg Val His Phe Cys Lys Val Asp Val Ile Asn His
165 170 175

Tyr Phe Cys Asp Leu Phe Pro Leu Leu Glu Leu Ser Cys Ser Pro Thr
180 185 190

Phe Ile Asn Glu Val Val Val Leu Cys Phe Ser Ala Phe Asn Ile Leu
195 200 205

Phe Pro Thr Leu Ser Ile Leu Ser Ser Tyr Ile Phe Ile Ile Ala Ser
210 215 220

Ile Leu Arg Ile Lys Ser Thr Glu Gly Arg Ser Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Ile Ser Ala Val Ala Val Phe Phe Gly Ser Ala Ala

245

250

255

Phe Met Tyr Leu Gln Pro Ser Ser Val Ser Ser Met Asp Gln Gly Lys
 260 265 270

Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Thr Lys Phe
 290 295 300

Tyr Glu Lys Ser Phe Ser
 305 310

<210> 79

<211> 971

<212> DNA

<213> Homo sapiens

<400> 79

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<210> 80

<211> 311

<212> PRT

<213> Homo sapiens

<400> 80

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Leu Thr Asn Lys Pro Glu Met Gln Leu Pro Leu Phe Phe Leu Phe Leu
 20 25 30

Ala Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met Ile Thr Leu
 35 40 45

Ile Leu Phe Ser Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

Ser Leu Ser Phe Ile Asp Leu Cys Gln Ser Thr Val Ile Ile Pro Lys
 65 70 75 80

Met Leu Val Asn Phe Val Thr Val Lys Asn Ile Ile Ser Tyr Pro Glu
 85 90 95

Cys Met Thr Gln Leu Tyr Phe Phe Val Thr Phe Ala Ile Ala Glu Cys
 100 105 110

His Met Leu Ala Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Gly Asn
 115 120 125

Pro Leu Leu Tyr Asn Ile Met Met Ser Tyr Arg Val Cys Ser Trp Met
 130 135 140

Ile Phe Gly Val Tyr Ile Met Ala Phe Ile Gly Ala Thr Ser His Thr
 145 150 155 160

Val Cys Met Leu Arg Val His Phe Cys Lys Thr Asp Val Ile Asn His
 165 170 175

Tyr Phe Cys Asp Ile Tyr Pro Leu Leu Glu Leu Ser Cys Ser Asp Thr
 180 185 190

Phe Ile Asn Glu Val Val Leu Leu Cys Phe Ser Val Phe Asn Phe Leu
 195 200 205

Ile Pro Thr Leu Thr Ile Leu Ser Ser Tyr Ile Phe Ile Ile Ala Ser
 210 215 220

Ile Leu Arg Ile Lys Ser Thr Glu Gly Arg Tyr Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Ile Ser Ala Val Ala Ile Phe Phe Gly Ser Thr Ala
 245 250 255

Phe Met Tyr Leu Gln Pro Ser Ser Val Asn Ser Met Asp Gln Gly Lys
 260 265 270

Val Ser Ser Val Phe Tyr Ser Ile Val Val Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Asn Lys Phe
 290 295 300

Phe Glu Arg Lys Phe Phe Leu
 305 310

<210> 81
 <211> 958
 <212> DNA
 <213> Homo sapiens

<400> 81
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<210> 82
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 82
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Leu Thr Asn Lys Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
 20 25 30

Gly Ile Tyr Leu Phe Thr Glu Leu Gly Asn Leu Gly Met Val Ile Leu

35	40	45
Ile Ser Ile Ser Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser		
50	55	60
Ser Leu Ser Phe Ile Asp Leu Cys Tyr Ser Thr Val Ile Ile Pro Lys		
65	70	75 80
Met Leu Val Asn Phe Val Thr Glu Lys Asn Ile Ile Ser Tyr Pro Glu		
85	90	95
Cys Met Thr Gln Leu Tyr Cys Phe Leu Val Leu Val Ile Ser Glu Cys		
100	105	110
Tyr Met Leu Ser Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn		
115	120	125
Pro Leu Arg Tyr Asn Val Thr Met Ser Tyr Gln Val Cys Leu Trp Met		
130	135	140
Ile Gly Gly Val Tyr Cys Ile Gly Leu Ile Glu Ala Thr Leu His Thr		
145	150	155 160
Val Cys Met Leu Arg Val Leu Phe Cys Lys Ala Asn Val Val Asn His		
165	170	175
Phe Phe Cys Asp Leu Leu Pro Leu Leu Gln Leu Ala Cys Ser Ser Thr		
180	185	190
Phe Val Asn Glu Val Val Leu Leu Cys Phe Ser Thr Phe Asn Phe Cys		
195	200	205
Val Pro Met Leu Thr Ile Leu Ser Ser Tyr Ser Phe Ile Ile Ala Arg		
210	215	220
Ile Leu Arg Ile Lys Ser Thr Glu Ser Arg Phe Lys Ala Phe Ser Thr		
225	230	235 240
Cys Ser Ser His Phe Thr Ser Val Ala Val Phe Phe Gly Ser Leu Gly		
245	250	255
Phe Met Tyr Phe Gln Pro Ser Ser Val Ser Ser Glu Asp Gln Gly Lys		
260	265	270
Val Ser Ser Val Phe Tyr Thr Thr Val Val Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Asn Lys Leu		

290

295

300

Leu Arg Lys Lys Thr Phe His Met
305 310

<210> 83

<211> 981

<212> DNA

<213> Homo sapiens

<400> 83

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<210> 84

<211> 312

<212> PRT

<213> Homo sapiens

<400> 84

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Met Ala Tyr Ser Asn Gln Ser Arg Val Thr Glu Phe Ile Ile Ser Gly
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Leu Thr Asn Lys Pro Glu Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
      20             25             30

Gly Ile Tyr Leu Phe Thr Val Leu Gly Asn Leu Gly Met Ile Ile Leu
      35             40             45

Ile Leu Leu Ser Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
      50             55             60

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Ser Leu Ser Phe Ile Asp Leu Cys Tyr Ser Thr Ile Ile Thr Pro Lys
 65 70 75 80

Met Leu Val Asn Phe Val Thr Thr Lys Asn Val Ile Ser Tyr Gln Glu
 85 90 95

Cys Met Thr Gln Leu Tyr Phe Phe Ile Ala Phe Val Ile Ser Glu Cys
 100 105 110

His Met Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Asn Val Thr Met Ser Tyr Gln Val Cys Ser Trp Met
 130 135 140

Val Gly Gly Val Tyr Gly Met Gly Phe Ile Gly Ala Ala Ile His Thr
 145 150 155 160

Phe Cys Met Leu Arg Val Val Phe Cys Lys Asp Asn Ile Ile Asn His
 165 170 175

Tyr Phe Cys Asp Leu Phe Pro Leu Met Glu Leu Ala Cys Ser Ser Thr
 180 185 190

Tyr Val Asn Glu Val Val Leu Leu Ser Leu Ser Ala Phe Asn Ile Phe
 195 200 205

Ile Pro Thr Leu Thr Ile Leu Gly Ser Tyr Ile Phe Ile Ile Ile Ser
 210 215 220

Ile Leu Arg Ile Lys Ser Thr Glu Gly Arg Phe Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Phe Ser Ala Val Ser Val Phe Phe Gly Ser Leu Ala
 245 250 255

Phe Met Tyr Leu Gln Pro Phe Ser Val Ser Ser Lys Asp Lys Gly Lys
 260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Ile Val Pro Met Leu Asn Pro Met
 275 280 285

Ile Tyr Ser Leu Arg Asn Arg Asp Val Lys Leu Ala Leu Asn Lys Leu
 290 295 300

Phe Gln Lys Lys Lys Phe His Val
 305 310

<210> 85
 <211> 1013
 <212> DNA
 <213> Homo sapiens

<400> 85
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<210> 86
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 86
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 Tyr Ala Cys Ala Leu Leu Gly Asn Leu Leu Leu Thr Ala Val Ile
 35 40 45
 Ser Ser Pro Gln Leu His Thr Pro Met Tyr Phe Phe Leu Gly Asn Leu
 50 55 60
 Ser Ile Phe Asp Met Gly Phe Cys Ser Thr Thr Ala Pro Lys Met Leu
 65 70 75 80

Ser Tyr Leu Ser Gly Gln Gly Gly Gly Ile Ser Phe Gln Gly Cys Val
85 90 95

Val Gln His Phe Phe Tyr His Cys Leu Gly Cys Thr Glu Cys Phe Leu
100 105 110

Tyr Thr Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Phe Pro Leu
115 120 125

Arg Tyr Thr Ile Ile Met Asn His Arg Val Cys Cys Val Leu Ala Thr
130 135 140

Gly Thr Trp Met Ser Gly Cys Val His Ala Thr Ile Leu Thr Cys Leu
145 150 155 160

Thr Phe Gln Leu Pro Tyr Cys Gly Pro Ser Asn Val Gly Tyr Tyr Phe
165 170 175

Cys Asp Met Pro Ala Val Leu Pro Leu Ala Cys Glu Asp His Ser Leu
180 185 190

Ala Gln Arg Val Gly Phe Thr Asn Val Gly Leu Leu Ser Leu Ile Cys
195 200 205

Phe Phe Leu Ile Leu Val Ser Tyr Thr Arg Ile Gly Ile Ser Ile Ser
210 215 220

Lys Ile Arg Ser Thr Glu Gly Arg Gln Arg Ala Phe Ser Thr Cys Ser
225 230 235 240

Ala His Leu Thr Ala Ile Ile Cys Ala Tyr Gly Pro Val Ile Val Ile
245 250 255

Tyr Leu Gln Pro Asn Pro Ser Pro Leu Leu Gly Ala Val Ile Gln Ile
260 265 270

Leu Asn Asn Leu Val Thr Pro Thr Ile Asn Pro Leu Ile Tyr Ser Leu
275 280 285

Arg Asn Lys Asp Val Lys Ala Ala Leu Arg His Val Phe Leu Lys Arg
290 295 300

Ser Leu Ser Leu Glu Ser Lys
305 310

<210> 87

<211> 948

<212> DNA

<213> Homo sapiens

<400> 87

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<210> 88

<211> 311

<212> PRT

<213> Homo sapiens

<400> 88

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His Thr Glu Gly Val Glu Thr Met Leu Phe Val Leu Phe Phe Ser Phe
      20             25             30

Tyr Ile Phe Thr Leu Val Gly Asn Leu Leu Ile Leu Leu Ala Ile Val
      35             40             45

Ser Ser Ser Arg Leu His Thr Pro Met Tyr Phe Phe Leu Cys Gln Leu
      50             55             60

Ser Val Cys Asp Ile Phe Phe Pro Ser Val Ser Ser Pro Lys Met Leu
      65             70             75             80

Phe Tyr Leu Ser Gly Asn Thr Pro Ala Ile Ser Tyr Ala Gly Cys Val
      85             90             95

Ser Gln Leu Phe Phe Tyr His Phe Leu Gly Gly Thr Glu Cys Phe Leu
      100            105            110
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Tyr Thr Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Tyr Pro Leu
 115 120 125

Arg Tyr Ser Val Ile Met Ser His Arg Ile Cys Ala Phe Leu Ala Met
 130 135 140

Gly Thr Ala Val Phe Gly Cys Ile His Ser Thr Phe Leu Thr Thr Leu
 145 150 155 160

Thr Phe Gln Leu Pro Tyr Cys Gly Pro Lys Asp Val Asn Tyr Tyr Phe
 165 170 175

Cys Asp Ile Pro Val Val Met Lys Leu Ala Cys Ala Asp Thr Ser Thr
 180 185 190

Leu Glu Met Val Gly Phe Ile Ser Val Gly Leu Met Pro Leu Ser Cys
 195 200 205

Phe Phe Phe Ile Leu Thr Ser Tyr Ser Cys Ile Val Arg Ser Ile Leu
 210 215 220

Gln Ile Arg Ser Thr Glu Gly Arg His Arg Ala Phe Ser Thr Cys Ser
 225 230 235 240

Ala His Phe Thr Ala Ile Leu Leu Phe Tyr Met Pro Val Ile Phe Ile
 245 250 255

Tyr Leu Arg Pro Thr Pro Ser Pro Trp Leu Asp Ala Thr Val Gln Ile
 260 265 270

Leu Asn Asn Leu Val Thr Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu
 275 280 285

Arg Asn Lys Glu Val Lys Ser Ser Leu Trp Thr Val Leu His Leu Leu
 290 295 300

Cys Phe Leu Pro Lys His Leu
 305 310

<210> 89

<211> 961

<212> DNA

<213> Homo sapiens

<400> 89

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 a 961

<210> 90
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 90
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 20 25 30
 Val Met Tyr Ile Val Thr Met Thr Gly Asn Leu Gly Leu Val Ile Leu
 35 40 45
 Ile Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
 50 55 60
 Asn Leu Ser Leu Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys
 65 70 75 80
 Met Leu Leu Asn Phe Ile Leu Asn Lys Asn Ile Ile Ser Tyr Thr Gly
 85 90 95
 Cys Met Thr Gln Leu Tyr Phe Tyr Ser Phe Phe Val Ile Ser Glu Cys
 100 105 110
 Tyr Val Leu Met Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Asn Ile Ala Met Thr Pro Lys Ile Cys Ser Tyr Leu
 130 135 140

Met Leu Gly Ser Tyr Leu Met Ala Phe Ser Gly Ala Met Ala His Thr
 145 150 155 160

Gly Cys Met Leu Arg Leu Thr Phe Cys Asp Ala Asn Thr Ile Asn His
 165 170 175

Tyr Phe Cys Asp Ile Leu Pro Val Met Gln Leu Ser Cys Thr Ser Thr
 180 185 190

Tyr Val Asn Glu Leu Glu Val Phe Ile Val Val Gly Ile Asn Ile Leu
 195 200 205

Val Pro Ser Ile Thr Ile Phe Ile Ser Tyr Gly Phe Ile Leu Ser Ser
 210 215 220

Ile Phe His Ile Asn Ser Asn Glu Gly Arg Ser Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Ile Ile Ala Val Ser Leu Phe Phe Gly Ser Gly Ala
 245 250 255

Phe Met Tyr Leu Lys Pro Ser Ser Val Gly Ser Met Asp Glu Gly Lys
 260 265 270

Ile Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Met Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Ile Thr
 290 295 300

Leu Ser Arg Trp Lys Leu Trp
 305 310

<210> 91

<211> 978

<212> DNA

<213> Homo sapiens

<400> 91

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<210> 92

<211> 311

<212> PRT

<213> Homo sapiens

<400> 92

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Leu Thr Asn Asp Pro Asp Leu Gln Leu Pro Leu Phe Leu Leu Phe Leu
20 25 30

Leu Ile Tyr Thr Thr Thr Ala Val Gly Asn Leu Ala Leu Ile Thr Leu
35 40 45

Ile Ala Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Leu
50 55 60

Asn Leu Ser Cys Ile Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Lys
65 70 75 80

Met Leu Met Asn Phe Leu Val Arg Lys Asn Ile Ile Ser Tyr Met Gly
85 90 95

Cys Met Thr Gln Leu Tyr Phe Phe Cys Phe Phe Ala Ile Cys Glu Cys
100 105 110

Cys Val Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Leu Tyr Asn Ile Thr Met Ser Pro Lys Val Cys Ser Tyr Leu
130 135 140

Met Leu Gly Ser Tyr Ile Met Gly Phe Ser Gly Ala Met Ile His Thr

145	150	155	160
Gly Cys Ile Leu Arg Leu Thr Phe Cys Asp Arg Asn Ile Ile Asn His			
	165	170	175
Tyr Phe Cys Asp Leu Phe Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr			
	180	185	190
Tyr Ala Asn Glu Ile Glu Ile Leu Ile Val Gly Gly Lys Asp Ile Ile			
	195	200	205
Val Pro Ser Val Ile Ile Phe Thr Ser Tyr Gly Phe Ile Leu Ser Asn			
	210	215	220
Ile Leu Gln Met Arg Ser Thr Ala Gly Met Ser Lys Ala Phe Ser Thr			
	225	230	235
Cys Ser Ser His Ile Leu Ala Val Ser Leu Phe Phe Gly Ser Cys Ala			
	245	250	255
Phe Met Tyr Leu Gln Pro Ser Ser Pro Gly Ser Met Asp Gln Gly Lys			
	260	265	270
Val Ser Ser Val Phe Tyr Thr Ile Val Val Pro Met Met Asn Pro Leu			
	275	280	285
Ile Tyr Ser Phe Arg Asn Lys Asp Val Lys Ile Ala Leu Arg Lys Ile			
	290	295	300
Phe Gly Lys Arg Arg Phe Ser			
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<210> 93

<211> 993

<212> DNA

<213> Homo sapiens

<400> 93

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<210> 94

<211> 327

<212> PRT

<213> Homo sapiens

<400> 94

Met Gln His Met Lys Gln Met Ile Met Glu Asn Asp Ser Ser Val Ser
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Glu Phe Ile Leu Met Gly Leu Thr Tyr Gln Pro Glu Leu Trp Trp Pro
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Leu Phe Val Leu Phe Leu Val Asn Tyr Thr Ala Thr Val Met Gly Asn
35 40 45

Leu Ser Leu Met Thr Leu Ile Cys Leu Asn Ser His Leu His Thr Pro
50 55 60

Met Tyr Phe Phe Ile Leu Asn Leu Ser Phe Ile Asp Phe Cys Tyr Ser
65 70 75 80

Phe Val Phe Thr Pro Lys Met Leu Met Gly Phe Val Ser Glu His Asn
85 90 95

Thr Ile Ser Phe Thr Gly Cys Met Thr Gln Leu Phe Phe Phe Cys Leu
100 105 110

Phe Val Asn Ser Glu Cys Tyr Val Leu Thr Ala Met Ala Tyr Asp Arg
115 120 125

Tyr Val Ala Ile Cys Arg Pro Leu Leu Tyr Thr Val Val Met Ser Pro
130 135 140

Arg Ala Cys Ser Leu Leu Met Leu Ala Ala His Leu Met Gly Val Ser
145 150 155 160

Ser Ala Val Val His Thr Gly Cys Ile Ile Gln Leu Arg Phe Cys Gly
165 170 175

Ser Lys Val Ile Asn His Tyr Met Cys Asp Thr Phe Pro Leu Leu Glu
180 185 190

Leu Ser Cys Gly Ser Ser His Val Asn Glu Leu Val Ser Ser Val Ser
195 200 205

Val Ala Val Val Val Val Ile Ser Ser Leu Ile Ile Val Ser Ser Tyr
210 215 220

Ala Leu Ile Leu Val Asn Val Ile His Leu Ser Ser Ser Lys Gly Trp
225 230 235 240

Ser Lys Ala Val Ser Thr Cys Ser Ser His Ile Ile Thr Val Ala Leu
245 250 255

Phe Tyr Gly Phe Gly Leu Leu Ala His Ile Lys Pro Ser Ser Ala Glu
260 265 270

Ser Val Val Gln Arg Lys Phe Phe Ser Val Val Tyr Thr Phe Val Leu
275 280 285

Pro Leu Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
290 295 300

Leu Ala Leu Lys Arg Thr Leu Lys Thr Val Thr Ile Gln Gly Lys Cys
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Leu Cys Cys Ser His Lys Ser
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<210> 95

<211> 936

<212> DNA

<213> Homo sapiens

<400> 95

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<210> 96

<211> 309

<212> PRT

<213> Homo sapiens

<400> 96

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Ala Met Tyr Leu Val Thr Ala Leu Gly Asn Leu Ser Leu Ile Ile Leu
 35 40 45

Thr Val Leu Asn Ser Tyr Leu His Thr Pro Met Tyr Phe Phe Leu Phe
 50 55 60

Asn Leu Ser Phe Val Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Gln
 65 70 75 80

Met Leu Met Asn Phe Ile Arg Lys Asn Thr Thr Ser Tyr Met Glu Cys
 85 90 95

Met Ala Gln Leu Tyr Phe Ser Cys Phe Phe Val Ile Ser Glu Cys Tyr
 100 105 110

Val Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro
 115 120 125

Leu Leu Tyr Asn Leu Val Met Ser Ser Lys Leu Cys Leu Asn Leu Met
 130 135 140

Leu Val Ser Tyr Phe Ile Ala Phe Ser Glu Ser Val Ala His Thr Ala
 145 150 155 160

Cys Met Leu Arg Leu Thr Phe Cys Asp Ala Asn Thr Ile Asn Tyr Tyr
 165 170 175

Phe Cys Asp Ile Pro Pro Leu Leu Gln Leu Ser Cys Thr Thr Thr Arg

180	185	190
Val Asn Glu Val Val Ile Phe Val Val Gly Ser Ile Asn Ile Ile Ile		
195	200	205
Pro Thr Ser Thr Ile Phe Val Ser Tyr Gly Phe Ile Leu Ser Ser Ile		
210	215	220
Phe Arg Ile Ser Ser Ser Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys		
225	230	235 240
Ser Ser His Ile Ile Ala Ala Phe Leu Phe Phe Gly Ser Gly Ala Ile		
245	250	255
Arg Tyr Phe Lys Pro Ser Ser Asp Gly Ser Met Asp Glu Gly Lys Ile		
260	265	270
Ser Ser Val Phe Tyr Thr Asn Val Ile Pro Met Ile Asn Pro Leu Leu		
275	280	285
Tyr Ser Leu Arg Asn Lys His Ile Lys Val Ala Leu Arg Arg Thr Leu		
290	295	300
Arg Lys Arg Asn Phe		
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<210> 97

<211> 1015

<212> DNA

<213> Homo sapiens

<400> 97

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<210> 98
 <211> 312
 <212> PRT
 <213> Homo sapiens

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 Ile Ile Tyr Thr Val Thr Val Val Gly Asn Leu Gly Leu Ile Ile Leu
 35 40 45
 Ile Gly Leu Asn Pro His Leu Tyr Thr Pro Met Tyr Tyr Phe Leu Phe
 50 55 60
 Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Ser Ser Pro Lys
 65 70 75 80
 Met Leu Met Asn Phe Val Phe Glu Lys Asn Ser Ile Ser Tyr Glu Gly
 85 90 95
 Cys Met Thr Gln Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys
 100 105 110
 Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125
 Pro Leu Leu Tyr Lys Val Thr Met Ser Pro Gln Val Cys Ser Met Leu
 130 135 140
 Ser Phe Ala Ser Tyr Gly Met Ala Phe Ala Gly Ala Ser Ala His Thr
 145 150 155 160
 Gly Cys Met Leu Arg Leu Ile Phe Cys Asn Ala Asn Val Ile Asn Phe
 165 170 175
 Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr
 180 185 190
 Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Ile Asn Ile Thr
 195 200 205

Val Pro Ser Phe Thr Ile Leu Ile Ser Tyr Val Phe Ile Leu Ala Asn
 210 215 220

Ile Leu Asn Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Ile Met Ala Ile Ser Leu Phe Phe Gly Ser Gly Ala
 245 250 255

Phe Met Tyr Leu Asn His Ser Gly Ser Met Asn Gln Gly Lys Ile Ser
 260 265 270

Ser Val Phe Tyr Thr Asn Val Val Pro Met Phe Asn Pro Leu Ile Tyr
 275 280 285

Ser Leu Arg Asn Lys Asp Val Lys Ile Ala Leu Lys Lys Val Met Met
 290 295 300

Arg Val His Ser Arg Phe Ile Ser
 305 310

<210> 99
 <211> 942
 <212> DNA
 <213> Homo sapiens

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<210> 100

<211> 309

<212> PRT

<213> Homo sapiens

<400> 100

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Leu Thr Gln Gln Pro Glu Leu Gln Met Pro Leu Phe Phe Leu Phe Leu

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Gly Ile Tyr Val Val Ser Met Val Gly Asn Leu Gly Leu Ile Val Leu

35 40 45

Ile Val Leu Asn Pro His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe

50 55 60

Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Ile Thr Pro Arg

65 70 75 80

Met Leu Val Gly Phe Val Lys Gln Asn Ile Ile Ser His Ala Glu Cys

85 90 95

Met Thr Gln Leu Phe Phe Phe Cys Phe Phe Val Ile Asp Glu Cys Tyr

100 105 110

Ile Leu Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys Lys Pro

115 120 125

Leu Leu Tyr Gln Val Thr Met Ser His Gln Val Cys His Leu Met Met

130 135 140

Val Gly Val Tyr Val Met Gly Leu Val Gly Ala Met Ala His Thr Gly

145 150 155 160

Ser Met Leu Ser Leu Thr Phe Cys Asp Gly Asn Ile Ile Asn His Tyr

165 170 175

Met Cys Asp Ile Pro Pro Leu Gln Lys Leu Ser Cys Thr Ser Thr Ser

180 185 190

Ile Asn Glu Leu Val Val Phe Ile Val Val Gly Val Asn Val Ile Ile

195 200 205

Pro Ser Leu Thr Val Phe Ile Ser Tyr Thr Leu Ile Leu Ser Asn Ile

210 215 220

Leu Ser Ile Gln Ser Ala Glu Gly Arg Ser Lys Ala Phe Ser Thr Cys

Met	Glu	Val	Ser	Asn	Met	Thr	Thr	Val	Thr	Val	Phe	Ile	Leu	Leu	Gly	1	5	10	15
Leu	Ser	Asn	Asn	Pro	Gln	Val	Gln	Ala	Leu	Leu	Phe	Val	Leu	Phe	Leu	20	25	30	
Val	Ile	Tyr	Leu	Leu	Thr	Leu	Leu	Gly	Asn	Leu	Leu	Met	Val	Leu	Val	35	40	45	
Ile	Ser	Thr	Asp	Ser	His	Leu	Cys	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Arg	50	55	60	
Gln	Leu	Ser	Phe	Leu	Asp	Ala	Phe	Tyr	Ser	Ser	Ile	Ile	Val	Pro	Lys	65	70	75	80
Leu	Leu	Glu	Asn	Leu	Leu	Ser	Lys	Gly	Glu	Thr	Ile	Ser	Phe	Leu	Glu	85	90	95	
Cys	Phe	Thr	Gln	Ile	Ser	Leu	Val	Ile	Phe	Ser	Gly	Ala	Thr	Glu	Ala	100	105	110	
Cys	Leu	Leu	Ser	Val	Met	Ala	Tyr	Asp	Arg	Phe	Gln	Ala	Met	Cys	His	115	120	125	
Pro	Leu	Leu	Tyr	Val	Val	Ile	Ile	Asn	Arg	Arg	Val	Cys	Ala	Gly	Leu	130	135	140	
Val	Gly	Ala	Ser	Trp	Ala	Ile	Gly	Met	Gly	Thr	Gly	Leu	Ile	Asn	Thr	145	150	155	160
Leu	Leu	Leu	Ala	Gln	Gln	His	Phe	Cys	Gly	Pro	Asn	Val	Ile	His	Ser	165	170	175	
Phe	Ala	Cys	Glu	Leu	Pro	Pro	Val	Leu	Leu	Leu	Thr	Cys	Ser	Asp	Pro	180	185	190	
Cys	Ala	Ser	Ile	Val	Ser	Ile	Leu	Thr	Thr	Met	Ser	Val	Leu	Gly	Leu	195	200	205	
Gly	Thr	Leu	Val	Leu	Leu	Leu	Gly	Ser	Tyr	Ser	Cys	Ile	Ile	Met	Thr	210	215	220	
Ala	Leu	Arg	Ile	Asn	Ser	Ala	Thr	Gly	Arg	Ser	Lys	Ile	Phe	Ser	Thr	225	230	235	240
Cys	Ser	Ser	His	Phe	Leu	Val	Val	Thr	Ile	Phe	Tyr	Thr	Ser	Gly	Val	245	250	255	

Leu Arg Tyr Met Ile Pro Ala Ser Gly Ser Ala Leu Glu Gln Val Leu
260 265 270

Ser Val Gln Tyr Ser Val Ile Thr Pro Leu Leu Asn Pro Leu Ile Tyr
275 280 285

Ser Leu Lys Ser Gln Glu Val Lys Val Ala Leu Arg Arg Met Leu Ala
290 295 300

Arg Lys Ser Arg Leu Pro Leu
305 310